TELEMEDICINE: A PRESCRIPTION FOR SMALL MEDICAL PRACTICES?

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TELEMEDICINE: A PRESCRIPTION FOR SMALL MEDICAL PRACTICES

THURSDAY, JULY 31, 2014

House of Representatives,
Committee on Small Business,
Subcommittee on Health and Technology,
Washington, DC.

The Subcommittee met, pursuant to call, at 10:09 a.m., in Room 2360, Rayburn House Office Building, Hon. Chris Collins [chairman of the Subcommittee] presiding.

Present: Representatives Collins, Coffman, Luetkemeyer, and Hahn.

Chairman COLLINS. Well, good morning everyone. This hearing will come to order. I want to welcome our witnesses and thank you all for being here.

Small businesses as all of us know are innovators, and particularly now in health care. Small companies are transforming medical care with new products, new services and cutting-edge technology. And small medical practices are changing as well. They are helping us connect and serve a more mobile population.

Telemedicine refers to patient medical care where the provider and patient are separated by distance. Although the adoption of telemedicine has been slow, it is increasing, and recently, several medical organizations adopted model policies for its appropriate use.

This technology offers the promise of connecting small physician practices with patients, other medical providers, hospitals in areas that are medically underserved.

Today, some small practices are finding it difficult to stay afloat due to the burdens of complying with the health care law and the cost of operating a small practice. Telemedicine may provide opportunities for these practices to broaden their reach and offer more accessible care to more patients, serve a larger geographic area, or consult with distant medical colleagues.

Some have suggested that small practices can be the hub that connects a patient's health care team. But small practices can encounter numerous barriers to telemedicine. The cost of technology, broadband availability, licensing requirements and reimbursement rules from private insurers, as well as Medicare and Medicaid, may limit or delay the adoption of telemedicine.

Today this subcommittee will examine a topic that touches both health and technology, the use of telemedicine and its possibilities for small medical practices. We look forward to hearing from our

distinguished panel of witnesses about this exciting convergence of medicine and technology.

I would now like to yield to Ranking Member Hahn for her opening remarks.

Ms. HAHN. Where are the women? Oh, they are all here. I usually always say that with the witnesses, but this is a good crop of witnesses.

Thank you, Mr. Chairman.

Welcome to the witnesses, I look forward to hearing from you. And as the chairman said, the coming expansion of telemedicine has the potential to increase access to health care to underserved communities, both in our inner cities and rural areas and keep Americans across the country healthy and independent.

Today's hearing offers us an opportunity to examine ways in which we can increase the use of telemedicine, especially among small medical practices.

We know that if implemented correctly, small practices may be able to cut costs, connect with patients that would be otherwise out of reach and improve patient care. Enabling doctors to better communicate with their patients has been shown to dramatically decrease hospital readmission rates and give patients peace of mind.

Enabling health care providers to communicate with each other would mean expanded access to the latest treatments and the best possible care available. Unfortunately, questions surrounding reimbursement, licensing, liability and the cost of technology have prevented many small practices from adopting telemedicine services.

The technology we need is ready. However, our Nation's health care system is not. In the coming years, we as a country will have to address how telehealth care is reimbursed. How and where doctors are able to practice remotely and how to handle sensitive patient information.

None of these questions have easy answers, and I appreciate every one of our witnesses for joining us today in hopes of shining some light on these and other issues. I look forward to hearing from all of you and from my colleagues.

Colleagues, where are they? They are not here.

As the telemedicine expansion continues, I hope we can work together so that doctors can provide patients with the very best care possible.

I yield back.

Chairman COLLINS. Thank you.

Before we start, there will be votes coming up at some point, we'll see where we are in the hearing. And worst case, we will adjourn and then come back and finish. It is also our last day in session for 5 weeks. So there is a lot going on, and we will play this by ear.

If committee members have an opening statement prepared, I will ask that they submit those for the record. Also, we have some timing lights, you'll see them start out as green, turn yellow, and turn red. We certainly have some latitude with those, but it is just a guide for your 5 minutes.

Our first witness today is Dr. Karen Rheuban. Dr. Rheuban is senior associate dean for continuing medical education and exter-

nal affairs director for the University of Virginia's Center for Tele-health in Charlottesville, Virginia.

Dr. Rheuban is past president of the American Telemedicine Association, very appropriate for today's hearing.

Welcome Dr. Rheuban, you have 5 minutes for your testimony.

STATEMENTS OF KAREN S. RHEUBAN, M.D., SENIOR ASSO-CIATE DEAN FOR CME AND EXTERNAL AFFAIRS DIRECTOR, UNIVERSITY OF VIRGINIA CENTER FOR TELEHEALTH, UNI-VERSITY OF VIRGINIA, CHARLOTTESVILLE, VA; MEGAN MCHUGH, PH.D., RESEARCH ASSISTANT PROFESSOR, DIREC-TOR, PROGRAM IN HEALTHCARE POLICY AND IMPLEMENTA-TION, CENTER FOR HEALTHCARE STUDIES, INSTITUTE FOR PUBLIC HEALTH AND MEDICINE & DEPARTMENT OF EMER-GENCY MEDICINE, NORTHWESTERN UNIVERSITY, FEINBERG SCHOOL OF MEDICINE, CHICAGO, IL; MAGGIE BASGALL, COMMUNITY DEVELOPMENT SPECIALIST, NEX-TECH, LENORA, KS, TESTIFYING ON BEHALF OF NTCA, THE RURAL BROADBAND ASSOCIATION; AND BRENDA J. DINTIMAN, M.D., FAAD, FAIR OAKS SKIN CARE CENTER, FAIRFAX, VA, TESTI-FYING ON BEHALF OF THE AMERICAN ACADEMY OF DERMA-TOLOGY

STATEMENT OF KAREN S. RHEUBAN, M.D.

Dr. RHEUBAN. Chairman Collins, Ranking Member Hahn, committee members, thank you for your invitation to testify regarding the opportunities and challenges faced by health care providers seeking to incorporate telehealth into everyday practice.

I am the director of the Center for Telehealth at the University of Virginia and a practicing pediatric cardiologist. At our center, we connect patients at 128 different sites across the Commonwealth of Virginia for access to specialty care. Telemedicine or connected care is not a new specialty, a new procedure or a new clinical service but rather technology designed to enable the provision of health care services at a distance, whether it is down the road, or across the State, or across the country.

Twenty-first century telemedicine services can be provided live by a high-definition video conferencing, supported by peripheral devices or asynchronously using storing forward technology or using remote patient monitoring tools keeping patients healthy at home.

Telemedicine improves patient triage, reduces the burden of travel for care, enhances timely access to care and saves lives. A few examples: Telemedicine helps us to treat acute stroke victims in critical access hospitals when every second counts. It allows us to manage high-risk pregnant women in their home communities, reducing premature deliveries.

Through telemedicine, we provide sorely needed mental health services. We screen patients for diabetic retinopathy, the number one cause of blindness in working adults. We monitor heart failure patients after discharge from the hospital to keep them healthier at home and in the workforce.

Regardless of the delivery system and, in particular, as we migrate from volume-based to value-based systems of care, telehealth supports patient engagement and self management. As supported

by extensive evidence, telemedicine improves clinical outcomes and also lowers the cost of care.

It is widely accepted that our Nation faces a shortage of physicians and other health professionals, expected to worsen with our aging population, higher rates of chronic illness and greater numbers of covered individuals. The use of telemedicine maximizes provider efficiency, but again most importantly, it is good for patients.

Despite our country's multibillion dollar investment in telemedicine, broadband expansion, and health information technologies, efforts to promulgate continued integration of telemedicine, unfortunately, still remains stifled by 20th century Federal and State barriers to more widespread adoption.

Opportunities for small practices to adopt telehealth are extensive, depending on the credentials of the provider and the model they might wish to deploy. Primary care and specialty care providers can connect to their patients or to one another through video conferencing. They may offer clinical services through store and forward technologies, serve on panels for telemedicine services companies, and utilize remote patient monitoring in the home to manage their patients with chronic illness.

Regardless of the model chosen, it is imperative that interested practitioners take into consideration all relevant Federal and State policies and specialty society best practices. Significant challenges still impact telehealth practice, such as originating sight restrictions on reimbursement by Medicare and varying degrees of reimbursement by State Medicaid programs and private payers.

Last year, sadly, Medicare reimbursed less than $12 million nationwide for telemedicine related services. A patient's or provider's zip code should not determine eligibility for telemedicine care when, on the other hand, our Medicare and Medicare programs spend many hundreds of millions of dollars annually on transportation costs. As an example, last year our UVA program saved patients more than 4.8 million miles of driving for access to care. It keeps patients local in their community.

Equally challenging are variable state board regulations that have led to continued uncertainty for practitioners, confusion about credentialing and privileging regulations, lack of licensure portability, which is a deterrent to interstate practice. Anti-kickback laws, HIPAA privacy and security regulations, evolving technology platforms, device interoperability and health information exchange are all important issues to be considered, as is the cost of sufficient bandwidth.

In conclusion, telehealth is a valuable tool to address the significant challenges of access to high quality care to mitigate workforce shortages, improve population health and lower the cost of care. There are many opportunities for small practices to integrate telehealth into everyday practice.

However, even for large health care systems such as our own, managing and navigating the complex legal and regulatory environment which impacts telehealth can be very challenging. It is imperative that we create and implement policies that foster certainty, high quality, secure and sustainable solutions that empower patients, and providers, and payers to adopt 21st century models of care. Thank you.

Chairman COLLINS. Thank you Dr. Rheuban.

I would now like to yield Ranking Member Hahn for the introduction of our next witness.

Ms. HAHN. Thank you.

I am pleased to introduce Dr. Megan McHugh, research assistant, professor, and director of health policy and implementation at the Institute for Public Health and Medicine Center for Health Care Studies at Northwestern University, Feinberg School of Medicine.

Dr. McHugh's research focuses on Federal health policy and advocacy and has been awarded support by prestigious institutions like the Robert Wood Johnson Foundation, CMS, CDC and the Kaiser Family Foundation.

She holds a masters from the College of William and Mary and a Ph.D. in public policy from the George Washington University.

Welcome Dr. McHugh.

STATEMENT OF MEGAN MCHUGH, PH.D.

Ms. MCHUGH. Thank you, Chairman Collins, Ranking Member Hahn and members of the subcommittee.

I'm honored to have been invited to testify today. My name is Megan McHugh, and I am a research assistant professor at Northwestern University. And my research and teaching focuses on Federal health policy and the impact of policy changes on health care costs, quality and access. And the opinions that I am going to share today are my own and not of the university

First, I would like to make three points: First, by adopting telemedicine services, small physician practices may be better prepared to participate and succeed in new models of care. The traditional fee-for-service payment system which pays providers for each visit, procedure or test is an obstacle to achieving the triple aim of better health care, better health and lower cost.

In an effort to move away from the fee-for-service model, the Center for Medicare and Medicaid Innovation which was created by the Affordable Care Act is supporting the development of new payment and delivery models, which reward providers for delivering high quality, low-cost care.

Telemedicine has played an important role in these value-based purchasing programs. For example, under the bundled payment demonstration providers have the flexibility and the financial incentive to care for patients using the best means possible at a lowest cost. And since some data suggests that telemedicine offers comparable care quality at a lower cost than traditional in-person visits, providing care via telemedicine is a natural choice.

Given the momentum towards value-based purchasing, small physician practices would be well served by exploring whether and how telemedicine may help them provide high-quality care at a lower cost.

My second point is that reimbursement and state licensing policies serve as barriers to the adoption of telemedicine by small physician practices. Medicare generally limits payment for telemedicine services to interactive audio and video telecommunications with realtime conversations where the original sites are located in a rural area.

As a result, telemedicine accounts for a very small portion of Medicare services, as we just heard. However, through the rule-making process, CMS has been gradually expanding reimbursement for telemedicine. For example, just this year CMS changed the geographic criteria for originating sites, which will expand reimbursable telemedicine services to more rural Medicare beneficiaries.

Although research on the impact of telemedicine on cost, quality and access is very promising, the evidence, I believe, is not conclusive. And as a result, I believe that the gradual expansion of telemedicine coverage under Medicare is a sensible course of action and one that will produce a slow but steady increase in the number of small practices that effectively and efficiently use telemedicine.

And a good first start, in my opinion, would be to extend coverage for telemedicine to all value-based purchasing programs, like patient-centered medical homes and accountable care organizations.

With regard to licensure, some State medical boards require telemedicine providers practicing across State lines to have a valid license in the State where the patient is located. And providers who want to practice across State lines must obtain an additional State license, which can be administratively burdensome.

This burden may by greater for small practices, which are less likely to have support staff who can help them navigate this process. My personal opinion is that the current medical licensure system is inadequate to address the growing practice of telemedicine. And there are several alternative models that could be considered, though each of them might raise some political and potentially legal challenges.

Then, third, any policy that expands the use of telemedicine should be carefully monitored. The academic literature on the impact of telemedicine is voluminous and still growing, and overall, the evidence suggests that telemedicine can improve access to care as well as the value of care.

However, evidence of the impact of telemedicine is not entirely consistent. Some studies have shown no positive benefits to telemedicine. Clearly, there's a need for continued research in this area, but there's another issue concerning research that I believe needs to be addressed and that is that many studies of the effectiveness of telemedicine have been conducted within hospitals or large physician practices. So, as a result, our understanding of the impact of telemedicine among small physician practices is much more limited.

In conclusion, telemedicine is an important tool for small practices as payers transition away from the fee-for-service model. State and Federal policymakers have the ability to facilitate the adoption of telemedicine through policies related to reimbursement and licensing, but expansion should be coupled with oversight to monitor impact.

Again, I'd like to thank you for allowing me to appear before you today and share my opinions, and I would be happy to answer my questions that you might have.

Chairman COLLINS. Thank you very much, Dr. McHugh.

Our next witness is Maggie Basgall.

Maggie is the community relations representative for Nex-Tech in Lenora, Kansas. Recently, Ms. Basgall was involved in a telemedicine pilot project, collaborating with local hospitals and clinics regarding their broadband needs. She is testifying on the behalf of the NTCA, the Rural Broadband Association.

Welcome, and you have 5 minutes.

STATEMENT OF MAGGIE BASGALL

Mr. BASGALL. Great. Good morning and thank you for having me. Chairman Collins, Ranking Member Hahn and members of the subcommittee, I am honored to be here today on behalf of the NTCA, the Rural Broadband Association, to discuss the use of telemedicine and its possibilities for small medical practices from the perspective of Nex-Tech.

Nex-Tech serves over 2,200 broadband customers and has over 2,300 voice access lines spread across a 9,300 square mile area in rural northwest and central Kansas. We serve 11 hospitals and 14 clinics among several other small physician practices.

I worked as a community development specialist for Nex-Tech for the past 4 years. I have a passion for rural communities, because I lived in rural Kansas for most of my life. Most of the my time with Nex-Tech is spent working with our communities, particularly our anchor institutions, such as health care providers.

Nex-Tech recently focused a pilot project on telemedicine in efforts to promote a greater adoption of advanced telemedicine capabilities. We spent time meeting with each hospital and several of the clinics in the small physician practices in our footprint.

Collaborating with these health care providers was very enlightening as we learned of the rather large barriers they are faced with in looking at adopting telemedicine. Hospitals and clinics are undergoing large changes stemming from the Affordable Care Act and other regulatory changes. Several are still in the process of converting to electronic health care records and looking into new financial challenges. Others share that much of their time and efforts have to be focused toward doctor recruitment, insurance barriers, and other pertinent issues.

That being said, however, they are all aware of the importance of broadband and how their access to affordable, reliable connections is significant. We have noticed an increase in subscribed bandwidth for our health care facilities, even in just the last couple of years.

We have several hospitals with 50 megabyte per second connections and higher. Many are currently using it for everyday activities, such as offsite backup, checking insurance eligibility, sending and receiving digitalized files, conducting research, et cetera.

Most of these hospitals are engaging in some forms of telemedicine, generally consisting of consultations from patient to mental health care provider or screen-to-screen trainings and Webinars. There are more uses that our hospitals and clinics could delve into.

So many of our customers live in areas that are literally hours and hours from the nearest specialist or major hospital. Telemedicine has been but could be even more so of the lifesaver for those in our area.

Even with health care staff time and efforts directed to it, there are other factors that come into play as well. As we've talked about, there is a lack of health insurance reimbursement for care through telemedicine and a lot of questions regarding physician licensure.

In visiting with hospitals, there is also a lack of resources showcasing tangible applications or even overall guidance that hospitals can utilize to get a sense of the efficiencies that can be added.

There are programs available that these hospitals, clinics, and physician practices can look toward for funding, but so often these programs are overwhelming and can be difficult to navigate through.

We do have fascinating ideas and programs that are developing at a regional hospital in our footprint, Hays Medical Center. They are currently preparing to deploy robots to four pilot locations that can effectively transport a doctor stationed at a hospital to a remote area.

There the patient can interact with the doctor through the robot with the use of plug-ins equipped to conduct diagnostic testing. Possibilities such as these are endless, but seeing these through fruition can be another story.

Unfortunately, due to a lot of these barriers mentioned, we haven't been able to move forward with our telemedicine pilot project we began in 2012. Not only are our area health care facilities facing these types of barriers, but Nex-Tech is as well. Telemedicine cannot be implemented without an underlying robust wired network. Unfortunately, Nex-Tech has been faced with a number of regulatory uncertainties stemming from the Federal Communication Commission's high-cost fund reforms.

Due to the high expense of delivering quality communication networks in rural areas, rural providers need predictable universal service support. However, in 2011, the FCC made changes from what was available to the Quantile Regression Analysis, QRA, which has created great uncertainty in the rural telecom arena.

While the FCC has now eliminated the QRA, we have reverted back to the previous methodology, a new Connect America Plan for rural telecommunications providers still has not been developed.

In summary, we at Nex-Tech are just absolutely thrilled to be able to collaborate with our area hospitals clinics and physician practices on current and future ideas and projects in telemedicine arena. However, we must be able to continue to deliver the services that hospitals are currently subscribed to and be ready for the influx of those who continue to need more bandwidth as they grow and technology advances.

Rural America will not realize the promise of telemedicine, however, without a broadband USF that offers carriers the regulatory certainty needed to make network investments and an insurance industry that lacks telemedicine coverage.

Guidance is also needed for health care facilities to take advantage of all that telemedicine offers. We look forward to working with Congress and the appropriate agencies to ensure these programs work as efficiently and effectively as possible. Thank you.

Chairman COLLINS. Thank you very much.

Our final witness is Dr. Brenda Dintiman. She is a physician with Fair Oaks Skin Care Center in Fairfax, Virginia. Dr. Dintiman is a board certified dermatologist who has practiced for over 16 years. She is testifying on behalf of the American Academy of Dermatology.

Thank you very much.

STATEMENT OF BRENDA J. DINTIMAN, M.D., FAAD

Dr. DINTIMAN. Chairman Collins and Ranking Member Hahn, as a fellow of the American Academy of Dermatology Association, which represents more than 13,000 dermatologists nationwide, and a past president of the Medical Society of Northern Virginia, I commend you for holding a hearing on how telemedicine can further the efficiency, quality and access to health care.

I am here today to discuss barriers of implementing telemedicine as a modality of care. Specifically, lack of reimbursement and cumbersome credentialing posed the greatest challenges. Although some reimbursement exists, it is not consistent across payers or across States to allow for proper patient access. Telemedicine is an innovative, rapidly evolving method of care delivery. The Academy supports the appropriate use of telemedicine as a means of improving access to the expertise of board-certified dermatologists to provide high quality, high value care.

As a physician who runs a small dermatology practice in Northern Virginia, I currently use DermUtopia for the provision of telemedicine. This is a HIPAA compliant, mobile phone, and Web-based application. Through this application, I am able to evaluate, triage and treat both my patients and patients who do not have a primary dermatologist.

We are aiming to go treat Medicaid patients through DermUtopia. However, there have been delays in ability to solidify funding, despite the fact that Medicaid has been improved for reimbursement for telehost services in Virginia.

I have faced several barriers to most effectively providing care via telemedicine. While I face these barriers as a physician, it is ultimately the patients, often the most economically vulnerable, that are the most directly affected. The largest barrier, as noted, is reimbursement for telehealth services. Without reimbursement, providers and patients are unlikely to utilize telehealth.

The benefits of such reimbursement would be widespread, telederm can save a patient time missed from work, travel time and, in the correct clinical context, allow for timely diagnosis and treatment when face-to-face care is unavailable or inaccessible.

While telederm has traditionally been used to increase access to the remote or underserved areas, it indeed has great potential for serving a variety of patients for dermatological needs. For instance, insured patients in urban areas may face similar access delays or issues as those in geographically remote areas and therefore benefit from teledermatology.

I have seen firsthand a number of patients that could have had the consultation done virtually and prevented an onerous trip to the office or to an urgent care or emergency room. An 89-year old woman who lives alone at home, with no family in the area, and

who would need to be brought to the doctor via wheelchair and transport vehicle, may be more easily evaluated via telemedicine.

A nursing home patient with dementia who requires a nurse aide, and transportation, and coordination costs from the nursing home to evaluate a leg ulcer or an early infection could be effectively evaluated via teledermatology. A 2-year old with severe eczema, an infection, who cannot get in to see a dermatologist due to lack of access to a Medicaid dermatologist and inability for the parents to transport them during work hours, across the city, two bus rides, away could be easily evaluated and monitored via teledermatology.

Overall, telemedicine provides a modality of care which can expand patient access to medical specialists, such as dermatologists. But barriers to implementation remain. Most notably issues of proper credentialing and reimbursement exist to varying degrees across States. These barriers impact providers but ultimately can hinder patient access to care.

I as well as the academy appreciate the subcommittee's continued leadership on this issue. And look forward to working with you to ensure that patients can benefit from high quality, timely and cost-efficient care for telemedicine. Thank you.

Chairman COLLINS. Thank you very much.

I want to thank all of our witnesses.

So far, we haven't had votes called. So, at this point, I would like to yield to Mr. Luetkemeyer for his 5 minutes of questioning.

Mr. Luetkemeyer.

Mr. LUETKEMEYER. Thank you, Mr. Chairman.

Ms. Dintiman, thank you for your testimony. I was kind of—as we go through the process here of talking about telemedicine, I'm kind of curious, you're involved in the practice every day. How many more patients can you see? In other words, how much more benefit can it be when you have the ability to do telemedicine here? I realize every case is different, but I mean just——

Dr. DINTIMAN. Well, I think, as she said, these studies have not been done, but we're anxious to do them, pilots and to see what the benefits could be. Personally, I think I could see 5 to 10 more patients a day.

Mr. LUETKEMEYER. Very good.

Dr. DINTIMAN. And that's with the effectiveness of evaluating them through the applications, through the computer, through the details that are provided, because teledermatology is a unique specialty that allows the pictorial view of the disease.

Mr. LUETKEMEYER. How do you minimize or mitigate the liability situation that you have as a doctor when you diagnose someone and someone else takes that diagnosis and then administers the care? How do you mitigate that? Are you concerned about it at all?

Dr. DINTIMAN. Of course, our concerns are to protect the physician and protect the patient, ultimately. It is interesting a lot of care is already provided via the phone, with very little details, and with sometimes misinformation communicated through a phone. Whereas, with the use of video or stored forward technology, you're getting so many more details and so much more important information that allows you to you make a very important triage or suggestion to advise the patient to come in, advise the patient to go

to the ER. I think that, in many ways, it protects the physician to have telemedicine as part of their practice.

Mr. LUETKEMEYER. Excellent.

Ms. Basgall, you went at length with regards to the broadband problem that is very prevalent in a lot of rural parts of our country. And you know, to me this is probably the biggest problem I would see other than, perhaps, reimbursement with regards to telemedicine from the standpoint of the benefit it could be to the rural areas. Yet, with the barrier of the lack of broadband, in some areas, it would seem that would be a huge hurdle.

I know I live in the rural part of Missouri, and I am barely within a broadband area myself. And so I know there are a lot of areas within my own district that do not have broadband. So can you speak to that a little bit about the concerns, how you are working with providers, maybe some hurdles and some things that perhaps we can help you with to be able to enhance that?

Mr. BASGALL. Sure. Well, Nex-Tech is actually sitting in a very good position as far the broadband that we are table to offer our customers because of some past RUS loans, because of the broadband stimulus grant and loans that we were able to get. We were able to build out fiber optics and also WiMAX, a wireless technology, to reach several of our customers that are out in a rural area, who otherwise had dialup service.

So I feel like we are sitting in a pretty good position, where we can continue to work with those. You are always going to have customers who aren't in line of sight of a tower and are down in a draw or have trees surrounding them, and you just continue to work with them and say, what else can we do? Can you look for a unique solution for that? Can you put up a pole or put whatever might be able to work for them?

As far as other companies in other areas, I know that it is a large issue, and I think a lot of maybe investments that would have otherwise been made at this time haven't been due to the regulatory uncertainty. I believe in the written testimony we have some statistics where it talks about the number of RUS loan applicants that were during the first 3 years of the program versus the past 3 and how those have dropped tremendously just because people aren't certain of—it has to be feasible in order to make it work. And when it is uncertain, it is difficult to make that happen.

Mr. LUETKEMEYER. Thank you.

Dr. McHugh, you talked about licensing across State lines is a problem. And I am sure when you practice across the States you have to have a license, so when you practice telemedicine across State lines, it is a whole new world there of licensing. Can you talk about the problems and what kind of solutions you may have?

Ms. McHUGH. Sure. This is a bit of a challenge, especially where State medical boards have made decisions to limit practice to physicians who are located in the same State as the patients. It really limits competition, and it limits the ability for the patients to seek care outside of the State lines.

There are several different approaches that could be used to address this problem anywhere from Federal approaches, where the Federal Government decides that we're going to have sort of a national leadership in term of licensing of telemedicine providers, to

keeping this a State responsibility and having States come together through some sort of interstate agreement, where one State will recognize licensure in another State.

Mr. LUETKEMEYER. Is there a movement along that line?

Ms. MCHUGH. There has been some advocacy along that line, but there has not been not been a whole lot of groundswell of support. I don't believe that many States have signed on to that yet.

Mr. LUETKEMEYER. I see I am over my time.

Thank you, Mr. Chairman.

Chairman COLLINS. Thank you, Mr. Luetkemeyer.

I yield to Ranking Member Hahn for her questions.

Ms. HAHN. Thank you, Mr. Chairman.

I really appreciate all of your testimony. I learned a lot listening to each and every one of you. Some of my questions were already asked by Representative Luetkemeyer, but I was thinking along the same lines.

One of the things that comes to my mind is patient privacy. And I was going to direct this to Dr. Rheuban, but any of you might want to answer that. There has been a high profile case lately of a doctor who was found secretly videotaping one of his patients in the exam room, and I think that just sort of sends fear through— I know women particularly.

What would be your take on who should design the protocols for processing, sending patient information? And can or should the Federal Government be involved in helping to regulate telemedicine to ensure patient privacy?

Dr. RHEUBAN. That is an excellent question. And certainly, all HIPAA privacy and security regulations apply to telemedicine providers as well. So I don't know that we necessarily need to regulate even more. The American Telemedicine Association has developed practice guidelines and standards. And I believe they should be sufficient, but it is a matter of training; working with industry, working with a provider community, working with the Federation of State Medical Boards so that everyone understands where we are currently; and then educating providers themselves about the appropriate use of telemedicine.

Ms. HAHN. Does anyone else have any comments on that?

Dr. DINTIMAN. Yes. I think that if you go to the ATA meeting, the American Telemedicine Meeting, you see that HIPAA compliance and security is of utmost importance. The technology is there. The enthusiasm of the scientists that come to these meetings is there.

I think that what we may not realize is already a lot of information is communicated in non-HIPAA compliant ways. And so we need to actually channel the physicians and the health care providers to use these various secure systems that have been developed, because I think ultimately that is risk for the patient, but it can be overcome.

Ms. HAHN. Now, Dr. Dintiman, you talked a little bit about how it could work in the world of dermatology. And you also mentioned possibly a patient in a nursing home with Alzheimer's. I was wondering how the rest of the doctors could comment on, what do you see as good cases for telemedicine? And are there ones that, of course, would not ever able to be accommodated by telemedicine?

I just would like to hear a few more, what are the actual cases you think that would be served well by this?

Ms. MCHUGH. Well, I will just jump in and say that when you think about the functionality and the capabilities of telemedicine, you know, they cover such a broad range of functions, you know. You can have a consultation. You can diagnose. You can do remote monitoring. You can even have physician mentoring.

And so when you think broadly about the scope that telemedicine covers, it is really hard to imagine a specialty that couldn't be aided by telemedicine. I mean, you can even think about things beyond traditional specialties. So, for example, I teach a graduate health policy course, and one of my students is an emergency physician who wrote a terrific paper on the use of telemedicine for EMS, Emergency Medical Services. You can imagine an ambulance even going out into the field and getting really expert advice about whether to transport a patient and where to transport a patient.

Dr. RHEUBAN. I don't think you even need to imagine it, because it is already here. So, in our program, we are providing services in more than 45 different subspecialties of health care. We do rely on our clinicians as to their comfort level of providing the service. We have protocols in place that have been developed with the providers to be sure we are doing the right thing for the right patient at the right time. American Telemedicine Association has many dozens of special interest groups that work with the specialty societies. If you want some use case scenarios, high-risk obstetrics telemedicine, cancer services. We do screening for diabetic retinopathy, acute stroke care. In my own speciality of pediatric cardiology, I can use a electronic stethoscope and read an ultrasound in the nursery where there is a baby that may have low blood oxygen. It is pretty much, as Dr. McHugh said, diverse across our specialties.

Ms. HAHN. Thank you. I know my time is up, but I will say I read something which none of you have actually touched on was the doctor-to-doctor use of this. And I was reading an example of a doctor who had, alone at night, kind of dealing with a case, no one was around, and the opportunities of sending to another doctor these kinds of video or pictures and having a consultation with another physician.

Thank you very much.

Chairman COLLINS. Yes, thank you.

I would like to now yield to Mr. Coffman for 5 minutes.

Mr. COFFMAN. Thank you, Mr. Chairman.

I thank you all for coming here to testify on telemedicine. And obviously, my hope and I think the hope of many members of Congress is what can we do to reduces cost and expand access to health care.

So I am wondering if you all could elaborate on I think three things: Number one, to what extent have we—what are the frontiers for telemedicine in terms of, what can we still exploit in terms of opening access, lowering costs? And then, the second part, what are the impediments to do that? Are they cultural within the provider community, or are they regulatory in nature? And then I think the third would be just an idea in terms of what it could mean to our health care system if we could advance telemedicine further in terms of opening up access and reducing cost.

Dr. Rheuban, why don't we start with you, please?

Dr. RHEUBAN. Thank you.

I think the frontiers are the delivery of care in the nontraditional environment, so in the workplace potentially, when people are traveling, many—in the home. We have a lot of cost savings data actually that are available. And as an example, in our own program, I mentioned the high-risk obstetrics telemedicine program. We have reduced preterm delivery and reduced days in our NICU by 39 percent. That is a huge cost saver for State Medicaid program and for the payer community.

In stroke, if you can provide timely access to a stroke neurologist and appropriate use of clot-busting medication, that saves huge disability, saves lives, and saves—nursing home care. Nursing homes are a wonderful place because the challenge of transporting patients, the cost of the Medicare program.

Remote patient monitoring in the home. We have done about 650 patients we supported after discharge from the hospital, and we have reduced readmission by 50 percent in those patients who would have bounced back. So those, again, cost savings. So the frontier is being broader in terms of our look-see and how we can do it and eliminating some of the regulatory barriers that have limited providers from utilizing these opportunities.

Mr. COFFMAN. Okay. Thank you.

Ms. MCHUGH. Mr. Coffman, you had asked whether the barriers are more public policy related versus cultural. I would argue that they are both. There is certainly a lot that policymakers can do to expand the use of telemedicine, but I think that cultural barriers are an important one that we haven't really touched on yet. Work and quality improvement has shown for decades that changing physician behavior is very, very difficult. But one thing that is very much in your purview is to change reimbursement policies. As I mentioned, my personal opinion is that expanding telehealth coverage value-based purchasing programs would be a natural and next step for that, because under value-based purchasing programs, physicians and hospitals are incentivized to provide high-quality care at the lowest cost. In some cases, we know that providers don't have the flexibility to use telemedicine under these programs, even though it could be a very useful tool to improve the value of care delivered.

Mr. COFFMAN. Ms. Basgall.

Mr. BASGALL. Yes. I would also like to touch on those same lines. The frontier in our rural area seems to just be let's get this started, let's move past just the face-to-face consultations they are currently having with—most of it is focused on the mental health side. We have a shortage, I think, of mental health psychologists, psychiatrists in our area. So a lot of times the hospitals are using kind of an ITV sort of set up for those means. So I think we just need to get past that.

But I think one of the—like you mentioned, cultural, one of biggest barriers is we have an aging population, and that is both doctors and patients. So doctor recruitment will be interesting as they are trying get some younger doctors in to focus on, maybe they will have a want or a desire to bring in some of this technology. And

then also helping our customers understand broadband and bring that into their lives a little bit more so.

Mr. COFFMAN. Dr. Dintiman?

Dr. DINTIMAN. I would like to focus on the cost saving aspect of telemedicine. I really think that if we look at our rehab centers and nursing home, how we could bring the care to the patient, instead of bringing the patient to an office or an emergency room without knowing where they need to be. For example, if we bring the care to the patient, we can evaluate a leg ulcer or an early infection more quickly and get the care implemented so they do not end up a patient that is hospitalized.

Secondly, I think one of our biggest patient populations is our obese and diabetic population that can be monitored through tele-ophthalmology. They can be monitored through teledermatology. They have leg ulcers that are, again, big cost to the health care system as well as the other complications of diabetes. So I feel that we can see this in many specialties that we bring the care to the patient, and the system will save money.

Mr. COFFMAN. Well, thank you all for your testimony today and for working in this frontier I think that has such promise in terms of opening up access and lowering costs and hopefully maintaining, if not improving, quality.

Madam Chairman, I yield back—Mr. Chairman.

Ms. HAHN. I like Madam Chairman.

Chairman COLLINS. Thank you very much.

Well, we have timed this fairly well. They have called votes, but we still have some time. I would like to ask a few questions to close this out.

On the reimbursement issue, I mean, we talked a lot about Medicare and Medicaid. Dr. McHugh, what about the private insurers? Start with the basic question: Do they make the decision themselves whether they reimburse because you have one insurance company in an area saying, we will reimburse our doctors for telemedicine, and yet another private insurance company saying no, or is this a statewide issue?

Ms. MCHUGH. So insurers do make the decision themselves. However, they have to follow State laws regarding mandated benefits. So some States have laws saying that insurers who offer coverage in their State must offer that particular benefit.

Chairman COLLINS. So you could have, though, a cutting-edge company saying, we're going do it.

Ms. MCHUGH. Uh-huh.

Chairman COLLINS. So if the insurance company can do it, a State might mandate it, but in the case of, I think, there are 20 States, as I understand it, that have a reimbursement policy, but that leaves 30 States without one. So, in those States, a private insurer could decide it is good business for them.

Ms. MCHUGH. Absolutely. We see many insurers being swayed by the evidence and going far beyond offering coverage for the services that are mandated. They realize it makes good business sense.

Chairman COLLINS. So, Ms. Basgell, some rural areas, and certainly mine—I have a very rural area. We have 25,000 to 50,000 households that don't have broadband coverage, and part of that gets back to the definition of what is an underserved area or not.

Have you seen any cases where somebody could have a small, office setting, or clinic setting, in a rural area that has broadband, so a patient could actually drive 5 miles there and connect at that point to a physician that is 50 miles away, almost like a call center? Have you seen anything like that?

Mr. BASGALL. You know, the most that we have seen as far as that goes is on the mental health side. And again, I think it goes back to some the closest psychologists are, you know, an hour and a half, 2 hours away. In my area, I think a lot of people are used to driving, and it is maybe not as bothersome to them to go to see their doctor physically, rather than online.

I do think it also goes back to it the aging population and what their comfort level is. I think that there are a lot that are just more comfortable being there physically, but as we have a younger population coming back to our area, I think that that is starting right now. We are seeing a trend where some younger people are moving back to their hometowns. I think if that continues, I think that that comfort level will rise, and maybe we will see more of that in the foreseeable future.

Chairman COLLINS. We have college kids that may be seeing, for various reasons, a mental health professional at home. They developed a relationship with that person. They go off to college. Maybe they are back and forth. It would appear that would be a very appropriate use. You can't just say to a college student in another State, because of licensing procedures, you have to start a new relationship. Would anyone like to comment on that?

Dr. RHEUBAN. That is absolutely a perfect use case and example of why the lack of licensure portability can be a challenge. That provider that is caring for that student would have to have a license to practice medicine in that State.

Now the Federation of State Medical Boards is moving forward with an interstate compact to try to expedite the licensure process, but it is still going to be time consuming. And we look to seeing how quickly and how expedited this process will be. Your example is a perfect example about why we need some broader vision in that regard.

Chairman COLLINS. Would any of you like to comment?

Dr. McHugh, is that a proper role, perhaps, for the Federal Government? I think some of us would say we defer to the 10th Amendment and States' rights. I, for one, am very reluctant to ever step in with a Federal policy or support of Federal policy that tramples on States rights. But you know, we seem to be in this telemedicine quandary of 20 States have reimbursement policies; 30 States don't. The licensing issue was brought to bear recently with a football physician who was treating his team in another State, and a player sued him. That brought that to the forefront. Is this one where perhaps some Federal statutes could give some limited coverage?

Ms. McHUGH. I think so. Certainly the Federal Government coming in and taking over this responsibility does introduce some issues with federalism. However, as a consumer and a parent, I want high quality care. And whether it is the Federal Government who shows leadership or State governments who show leadership,

if States aren't going to act, I would like to see the Federal Government act.

Dr. RHEUBAN. I would like to point out there are 50 different State Medicaid programs with all different regulations as well. And that is a major challenge for our patients, especially as we see more insured patients under the Medicaid program. So I would certainly be supportive of greater oversight when it comes to medicaid programs and telemedicine as well.

Chairman COLLINS. It almost seems like you could have some exceptions for existing patient relationships to avoid that. I am from western New York. A lot of our older population goes south for 3 months to Florida. There is another case; they have the relationship. It is not a New York doctor poaching in the Florida area for clients, but rather an existing client relationship, much like the college student and so forth.

Do you ever think you could see something where there would be protections and/or licensing granted to existing patient-doctor relations different than a new patient? Is that even a possibility?

Dr. DINTIMAN. I think that that is very doable and especially to—some of the States have a specific telemedicine license. It doesn't give you full access, but you do have the ability to treat patients across lines.

And I just wanted to remind us that there are many States that have—there is a huge shortage of pediatric specialties, such as pediatric rheumatology and endocrinology. There are whole States that don't have one pediatric rheumatologist. I think those people should have the ability to have a telemedicine consult, even if there is not an existing relationship.

Chairman COLLINS. I think our time has come to an end. I have other questions, but I think what we have seen here is common sense. We would like to think that common sense should carry the day. And technology has now moved to us a place we can better serve an aging population or a rural population where we know there is going to be a shortage of doctors. There is already a shortage of specialties. There are many mental health professionals that are doing concierge medicine; they don't even take insurance. I know in the dermatology profession, especially, you can wait 18 months to get—they call it an annual skin check, but they should now call it an 18-month skin check. So I think common sense says we need to move it forward. If a doctor doesn't get paid, they are not going to be participate, so reimbursement. The licensure issues. No one wants to be put in a position of not complying with the laws relative to their license or, in some cases, their own liability insurance policies.

So what our purpose was today, and I think we accomplished it, was to start a discussion. I think this is only the second hearing in Congress on telemedicine. It is messy with State laws. It is messy with Medicare and Medicaid and different practices and existing relationships and so forth. But if we don't start the discussion at some point—and we are seeing a hodgepodge of things move forward State by State.

So, again, your testimony was quite timely. We appreciate all of your comments and hope that this discussion is helpful to those of us who just want to move forward in a common sense direction.

I ask unanimous consent of members that we have 5 legislative days to submit statements and supporting materials for the record.

And with no objection, that is so ordered.

The hearing is now adjourned.

[Whereupon, at 11:02 a.m., the subcommittee was adjourned.]

A P P E N D I X

Testimony before the Committee on Small Business Subcommittee on Health and Technology

July 31, 2014

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Chairman Collins, Ranking Member Hahn, members of the Subcommittee on Health and Technology, thank you for the invitation to provide testimony regarding the opportunities and challenges for small medical practices seeking to incorporate telehealth into everyday practice. My name is Dr. Karen Rheuban, and I direct the Center for Telehealth at the University of Virginia. I am the Principal Investigator of the federally funded Mid Atlantic Telehealth Resource Center, a past president of the American Telemedicine Association and Board Chair of the Virginia Telehealth Network. I also have the privilege of serving as Board Chair of the Virginia Department of Medical Assistance Services (Medicaid). Although the focus of my testimony relates to opportunities for and barriers to the use of telehealth at the provider level, it is also important to note there are parallel implications for small business development in sectors such as telemedicine services companies and technology innovation.

"Telemedicine" is defined as the practice of medicine using electronic communications, information technology or other means between a provider in one location, and a patient in another location. Generally, telemedicine is not an audio-only telephone conversation, e-mail/instant messaging conversation, or fax. Telemedicine is not a new specialty, a new procedure or a new clinical service but rather, technology designed to enable the provision of healthcare services at a distance. 21st Century telemedicine services can be provided live, via high definition interactive videoconferencing supported by peripheral devices, or provided asynchronously, using store and forward technologies, or through the use of remote patient monitoring tools.

Telemedicine has been demonstrated to mitigate many of our nation's significant challenges including disparities in access to care, healthcare workforce shortages, and geographic mal-distribution of providers. Telemedicine improves patient triage, clinical outcomes, reduces the burden of travel for care, and fosters more timely access to care. Telemedicine tools support patient engagement and self-management where appropriate, and, as supported by exten-

sive evidence published in the peer-reviewed literature, improves clinical outcomes, and lowers the cost of care [1],[2].

Vetted by and in collaboration with the relevant specialty societies, the American Telemedicine Association has developed and published practice guidelines designed to ensure best practices in telemedicine that ensure high quality care.

Examples of telehealth supported care include:

- Remote diagnosis of stroke with timely use of thrombolytic (clot busting) agents to reduce morbidity and mortality, improve patient outcomes, and lower overall costs of care;

- Delivery of telemedicine supported obstetrical services to women at high risk for complicated pregnancies ultimately resulting in improved clinical outcomes, lessened infant mortality rates, reduced days in neonatal intensive care and lower costs of care;

- Regular ophthalmologic screening of patients with diabetes for retinopathy, the number one cause of blindness in working adults;

- Better management of chronic illness such as heart failure, diabetes, hypertension, chronic obstructive pulmonary disease;

- Improved access to cancer screening tools, collaborative diagnosis through virtual tumor boards and even remote access to clinical trials;

- Access to mental health services for children and adults to include emergency psychiatry services;

Telemedicine supports an integrated systems approach focused on disease prevention, enhanced wellness, chronic disease management, decision support, improved efficiency, quality and patient safety.[3]

Opportunities for small practices to adopt telehealth relate to the model they wish to deploy and the credentials of the provider. Primary care providers can serve as "originating sites" so as to connect their patients to specialists, they may offer direct-to-consumer services for their own patients, they may choose to serve on panels for telemedicine services companies offering direct-to-consumer services for their own patients or others, and/or they may engage in remote patient monitoring services for chronic disease management for their patients. Specialty care providers may serve as consulting "distant site" providers to provide consultative services and follow up visits either through their offices or at the hospital. Specialists may also serve as "originating sites" to connect to other providers. They may offer services live using videoconferencing

[1] Lustig, Tracy A. The role of telehealth in an evolving health care environment: workshop summary. National Academics Press, 2012.

[2] Schwamm, Lee H., Heinrich J. Audebert, Pierre Amarenco, Neale R. Chumbler, Michael R. Frankel, Mary G. George, Philip B. Gorelick et al. "Recommendations for the Implementation of Telemedicine Within Stroke Systems of Care A Policy Statement From the American Heart Association." *Stroke* 40, no. 7 (2009): 2635–2660.

[3] Kvedar, Joseph, Molly Joel Coye, and Wendy Everett. "Connected health: A review of technologies and strategies to improve patient care with telemedicine and telehealth." *Health Affairs* 33, no. 2 (2014): 194–199.

technologies or through store and forward applications. Specialty care providers may choose to serve on panels of consultants for telemedicine services companies, offer direct-to-consumer services for their patients or for payers and telemedicine services companies, and participate in remote patient monitoring models. Regardless of the model chosen, is imperative that willing providers take into consideration all relevant federal, state, specialty society policies and best practices that impact telehealth practice.

A) *Rural healthcare:*

Although rural communities face the same basic challenges in access, quality and costs as their urban counterparts, they do so at far greater rates, attributable to a host of factors. "Core health care services" as defined by the Institute of Medicine as primary care, emergency medical services, long term care, mental health and substance abuse services, oral health and other services are considerably less accessible in rural communities.[4] Where local specialty care services are not available, particularly in rural and underserved regions and health professional shortage areas, telemedicine offers timely access to care and spares patients the burden of long distance travel for access to that care.

Rural communities lack sufficient patient volumes to support specialty and subspecialty practices. Primary care providers are often overwhelmed with complex patients with acute and chronic illness. Telehealth technologies offer ready access to critical services when rural providers partner with tertiary and quaternary care facilities.

Attracting health professionals to rural communities remains a daunting task and retaining those health professionals to practice in rural communities is all the more difficult. Rural healthcare providers generally work longer hours, see more patients and have grater on-call demands because of lack of cross coverage opportunities. Strategies to recruit and retain clinicians to practice in rural and frontier communities must include applications that enhance the management of patients with acute and chronic illness, and reduce the chronic sense of isolation experienced by those practitioners by affording enhanced connectivity to colleagues, and educational opportunities.

Telehealth should be viewed as integral to rural development. More than 90% of patients seen through our UVA telemedicine program remain within their community healthcare environment, resulting in a reduction of unnecessary transfers, and thereby contributes to the economic viability of community hospitals.

B) *Urban healthcare*

Although the challenges of unfavorable geography and distance tend to be uniquely rural, socioeconomic issues, health disparities, and other serious barriers to access to quality healthcare are equally compelling in urban areas. Poverty, unhealthy behaviors and ad-

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[4] Institute of Medicine, Committee on the Future of Rural Health Care. "Quality through collaboration: The future of rural heath care." (2014).

verse health status indicators are as prevalent in the shadow of our finest urban academic health centers as they are in rural communities. Isolated, vulnerable urban patients also suffer from high rates of chronic illness, and for whom a bus ride across town can be as challenging as is a long ride for rural patient.

C) Workforce

It is widely accepted that our nation faces a shortage of physicians and other health professionals which is anticipated to worsen with our aging population, higher rates of chronic illness, and greater numbers of covered individuals seeking care following the implementation of the Affordable Care Act. The Association of American Medical Colleges (AAMC) in a recent communication with the Committee on Veterans Affairs reported an estimated shortage of 46,000 primary care physicians and 45,000 specialists by 2020.[5] The incorporation of telehealth technologies into integrated systems of care offers tools with great potential to address some of the challenges of access, specialty shortages, and changing patient needs both in the rural and urban setting.

The aging of our population has already created increased demand for specialty healthcare services to address both acute and chronic disease in the elderly. Such a demand, in the face of anticipated provider shortages, requires a fundamental shift from the model of physician centered care to one focused on patient centered care using interdisciplinary teams, evidence based medicine, the use of informatics in decision support and telehealth technologies when specialty care services are not locally available. Home telehealth and remote monitoring in the arena of chronic disease management improves care and prevents hospital readmissions.

To facilitate this paradigm shift, it is imperative that we train a broad spectrum of health professionals to deliver 21st Century healthcare facilitated by telehealth technologies.

D) Example: The University of Virginia Center for Telehealth

The UVA Telemedicine program serves as an example of both traditional and innovative applications in telehealth. Our Center for Telehealth was established initially as the Office of Telemedicine in 1996. Since the establishment of our program, we have developed collaborations and agreements connecting the UVA Health System with 128 sites across the Commonwealth using high definition video-teleconferencing, store and forward technologies, remote patient monitoring and mobile health applications to improve access to healthcare services for the citizens of the Commonwealth. We connect with hospitals, clinics, health centers, community service boards, medical practices, correctional facilities, skilled nursing facilities and emergency medical services. Our telemedicine program has reduced the burden of travel for Virginians by more than 9 million miles, saved lives and fostered innovative models of care

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[5] https://www.aamc.org/download/385178/data/
aamclettertocongressionalconfereesonveteranaffairslegislation.pdf

delivery and workforce development. We have launched a care coordination and remote patient monitoring program designed to reduce hospital readmissions, and to manage chronic disease in the community setting. UVA telemedicine supported clinical care spans the continuum from prenatal services, to acute care consultations and follow up visits, to chronic disease management and palliative care. We have leveraged these efforts to also expand broadband communications services in rural regions of the Commonwealth.

The UVA Telemedicine program has received funding from HRSA, USDA, the Department of Commerce, and the Rural Healthcare Support Mechanism of the Federal Communications Commission. We have worked with our colleagues at the Centers for Medicare and Medicaid Services, and with the Institute of Medicine to help advance the implementation of policies that allow for innovation, sustainability and high quality patient care. In 2010, the Center was awarded a federal grant to serve as the Mid Atlantic Telehealth Resource Center (MATRC) to provide technical assistance to providers, healthcare systems, state governments and other entities in eight states and the District of Columbia.

The Center for Telehealth has also worked closely with all relevant agencies of the Commonwealth of Virginia to help build our telemedicine network, to pilot innovative applications, and to ensure sustainability through sound state public policy collaborations that integrate telehealth into mainstream healthcare in the Commonwealth. These efforts led to broad reimbursement by Virginia Medicaid in 2003 and in 2010, a legislative mandate for parity third party payment.

Our Center for Telehealth tracks a host of metrics to include process metrics for emergency care (time from consult request to completion of encounter), process metrics for non-emergency services which are compared to traditional face to face services, clinical outcomes metrics, hospital readmissions rate, miles of travel avoided, comparisons to national benchmarked telemedicine programs, patient satisfaction, and other organizational metrics.

Examples of UVA telemedicine clinical outcomes metrics include:

a) High-risk obstetrics telemedicine in which we compared traditional face to face care with care provided via telemedicine to 374 high risk pregnant women. We have documented a reduction in NICU hospital days for the infants born to these patients by 39% compared to control patients, reduced patient no-shows by 62% and reduced patient travel by these pregnant women by 162,000 miles.[6]

b) In partnership with BroadAxe Care Coordination, remote patient monitoring tools have been deployed to prevent hospital readmission and have been an effective tool for patients with heart failure, acute myocardial infarction, chronic obstructive pulmonary disease, and pneumonia, reducing all cause 30 day readmissions by 45%.

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[6]Veith, Sharon T et al, "Perinatologists and Advanced Practice Nurses Collaborate to Provide High Risk Prenatal Care in Rural Virginia Communities." In *Association of Women's Health, Obstetric and Neonatal Nurses (June 14–18), 2014)*. AWHONN, 2014.

c) Store and forward ophthalmologic screening for retinopathy, the number one cause of blindness in working adults has been provided to underserved adults with diabetes. Over two years, 1736 screens have been performed, with 802 abnormal patients identified (46%) as being at risk for blindness.

d) Remote patient monitoring tools have been used to reduce the burden of diabetes in the community setting. All clinical metrics tracked (Hgb A1c, fasting blood sugar and blood pressure) have had impressive reductions in the range of 9–10%.

e) More than 2000 patients have participated in the video-based interactive patient education programs of our diabetes community network.

E) Issues for consideration:

Despite the federal government and private industry's multi-billion dollar investment in telemedicine, broadband expansion and health information technologies, disappointingly, efforts to promulgate continued integration of telemedicine remain stifled by 20th Century federal and state barriers to more widespread adoption. If challenging to large healthcare systems such as ours, it follows naturally that despite great promise, these obstacles create significant challenges for small medical practices seeking to use telehealth tools. Larger systems can draw upon the expertise of contract attorneys, information technology specialists, a robust billing staff, electronic medical records and picture archiving and communications services, credentialing and privileging staff, and other support systems to help facilitate telehealth integration.

Currently, 26 different federal agencies report engagement in telehealth, be it through research or other grant funding opportunities, the establishment of broadband communications networks, clinical service delivery, device development and regulation, and other interests. The Fed-Tel working group efforts to coordinate telehealth policy has made some progress, however, there still remains a serious lack of coordination of practical policies across these agencies in part because of statutory barriers.[7]

As an example: mal-aligned federal definitions of rural have resulted in federal grant support for telemedicine technology and broadband connectivity deployed to certain clinics and hospitals eligible for funding according to those agency definitions of rural, but sustainability is thwarted by statutory barriers that deny Medicare reimbursement because of a more limited Medicare definition of rural and other originating site restrictions. Inconsistent state policies and regulations create additional barriers for otherwise willing providers seeking to integrate telehealth into care delivery models.

1) Reimbursement
a) Medicare:

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[7] Doarn, Charles R., Sherilyn Pruitt, Jessica Jacobs, Yael Harris, David M. Bott, William Riley, Christopher Lamer, and Anthony L. Oliver. "Federal Efforts to Define and Advance Telehealth—A Work in Progress." *TElemedicine and e-Health 20*, no. 5 (2014): 409–418.

Payment coverage restrictions remain a major impediment to the broader adoption of telehealth by providers. Congress, in 1997, through the Balanced Budget Amendment, and in 2000, though the Benefits Improvement and Protection Act (BIPA), authorized the Center for Medicare and Medicaid Services (CMS) to reimburse for telehealth services provided to rural Medicare beneficiaries across a broad range of CPT codes and services. However, the current Medicare telehealth provisions in the Social Security Act 1834(m), enacted in 2000, have not kept pace with advancements in technology, and more than a decade of best practices and outcomes research. In the Act, Congress, directed CMS to study and report opportunities to expand coverage within two years. Fourteen years later, no such report has been produced.[8]

The Affordable Care Act did not expand eligible originating sites in the traditional Medicare program in part because of adverse scoring by the Congressional Budget Office that failed to take into account services provided in lieu of face to face care, and Medicare savings accrued by patient monitoring programs. Pilot programs have been launched through the Center for Medicare and Medicaid Innovation that include remote patient monitoring. The regulations for Accountable Care Organizations still require the patient originating site to conform to the regulations set forth in Section 1834(m) without flexibility to include providers serving patients living in metropolitan communities across the nation including patients in nursing homes.[9] These statutory barriers placed on telehealth programs are borne out by the meager reimbursements reported by CMS for telemedicine services. **In 2013, CMS reported fewer than $12 million dollars in reimbursements for "allowable charges" NATIONWIDE which include distant site and originating site fees.** (Attachment A: CTEL). Although physician offices and community based clinics are ideal originating sites for telemedicine encounters, the current Medicare originating site payment ($24.63) is insufficient to cover the costs of establishing and maintaining a telemedicine services. In its 2014 physician payment schedule, CMS expanded its operating definition of rural from nonmetro counties only to also include those regions defined as rural by the Office of Rural Health Policy.

b) Medicaid:

Currently 47 state Medicaid programs provide **some** form of reimbursement for the delivery of telehealth facilitated care to Medicaid beneficiaries. However, there is no consistency in telehealth coverage across the Medicaid programs, despite clear needs of patients served by our Medicaid programs and in the face of coverage expansion post implementation of the Affordable Care Act. Most Medicaid programs pay for transportation of patients and yet, in many states, there are still considerable limitations on coverage for telehealth services. In 2013, Virginia Medicaid expended $70 mil-

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[8] Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act (BIPA) section 223(d).
[9] Grabowski, David C., and A. James O'Malley. "Use of telemedicine can reduce hospitalizations of nursing home residents and generate savings for medicare." *Health Affairs* 33, no. 2 (2014): 244–250.

lion dollars on non-emergency transport of Medicaid beneficiaries.[10] A consistent federal-state approach to Medicaid payment for telehealth services would provide cost-savings both in operations costs (transportation) and more importantly, in access to care and models of care delivery. Virginia Medicaid has taken many positive steps integrating telehealth for its beneficiaries, and since 2003, has provided telehealth coverage for urban and rural beneficiaries. Virginia Medicaid covers live-interactive video based consultations and follow-up care for all Medicaid enrollees. Our Medicaid program has begun to cover certain store-forward services by Medicaid providers, and has integrated remote patient monitoring for our (urban and rural) dual enrollees, the most vulnerable and costly patients we serve, though our newly launched pilot with CMS "Commonwealth Coordinated Care". Virginia Medicaid has also expanded the list of eligible providers and services beyond the eligible providers in Medicare. Medicaid coverage decisions requested by providers are analyzed based on clinical need, technical viability of the service, models supported by other payers, support of professional organizations, establishment of protocols, costs, and risk of fraud and abuse. In 2013, Virginia Medicaid reported reimbursements of $570,000 for more than 10,000 telemedicine claims in the fee for service and managed care programs.[11]

c) Private pay:

Twenty-one states plus the District of Columbia require that private insurance cover telehealth services. These states are: Arizona, California, Colorado, Georgia, Hawaii, Kentucky, Louisiana, Maine, Maryland, Michigan, Mississippi, Missouri, Montana, New Hampshire, New Mexico, Oklahoma, Oregon, Tennessee, Texas, Vermont, Virginia, and the District of Columbia. Some of the commercial payers support payment for telemedicine services even in the absence of a state mandate. Others have developed or adopted direct-to-consumer models as either a benefit to members, or an additional payment option.

d) Other models:

A number of telemedicine services companies have developed models to provide contractual services to hospitals, correctional facilities and other entities, by recruiting individual physician providers and contractually fully managing the interface between physician, hospital and patient (examples: *Specialists on Call*®, Insight Telepsychiatry®). Other companies contract with payers or directly with patients in direct to consumer model (examples: *Teladoc*®, American Well®, MD Live®) and offer services via video-based encounters and telephone services to the home, workplace or travel locations. The Federation of State Medical Boards [12] and the American Medical Association [13] have issued recent policy documents

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[10] Communication with Hazelton, A., Virginia Department of Medical Assistance Services, July 2014.

[11] Communication: Nelson, J, Virginia Department of Medical Assistance Services, July 2014.

[12] http://www.fsmb.org/Media/Default/PDF/FSMB/Advocacy/FSMB_Policy.pdf.

[13] REPORT 7 OF THE COUNCIL ON MEDICAL SERVICE (A–14) Coverage of and Payment for Telemedicine, June, 2014.

and guiding principles to ensure patient safety, quality of care, privacy of patient information, protecting the patient-physician relationship while promoting improved care coordination and communication with medical homes.

2. Boards of Medicine policies:

Inconsistent board regulations across the states and territories have led to continued confusion for practitioners. Some state boards have adopted positions of opposition to the mainstream adoption of telehealth requiring an in-person visit prior to any subsequent telehealth encounters. We **applaud** the Federation of State Medical Boards, for its April, 2014 Report *Appropriate Regulation of Telemedicine (SMART) Workgroup report.* This report, *"Model Policy for the Appropriate Use of Telemedicine Technologies in the Practice of Medicine"* establishes a framework and common language for adoption by the states.[12] As stated by the FSMB, "this new policy document provides guidance to state medical boards for regulating the use of telemedicine technologies in the practice of medicine and educates licensees as to the appropriate standards of care in the delivery of medical services directly to patients via telemedicine technologies. It is the intent of the SMART Workgroup to offer a model policy for use by state medical boards in order to remove regulatory barriers to widespread appropriate adoption of telemedicine technologies for delivering care while ensuring the public health and safety." Notably, this working group provided guidance to the Boards of Medicine that an initial telemedicine encounter (live interactive video based or store and forward) can indeed establish a bona-fide doctor patient relationship so long as the encounter conforms to current standards of practice. Indeed, our experience and that of others supports that concept. Timely access to care is a key driver of telemedicine programs....as an example, it is highly unlikely that any acute stroke victim might pre-emptively have scheduled an in person visit with a stroke neurologist prior to suffering his/her first stroke. We rely upon our clinicians and their respective specialty societies to determine the wisdom and need for an initial in-person visit when developing our telehealth protocols.

The SMART Working group also established additional guidelines for the Boards that address informed consent, privacy and security of patient records, patient choice, prescribing, licensure, continuity of care and access to emergency care. In particular, the FSMB model policy clearly states that prescribing as a result of a telemedicine encounter should follow all current standards of practice in terms of indications, appropriateness and safety considerations.

3. Credentialing and Privileging

Credentialing and privileging are important elements of telehealth practice so as to ensure patient safety, quality and that appropriate services are provided by the appropriately credentialed provider. Telehealth has been incorporated into the Joint Commission standards beginning in 2000 and in their revised standards of 2004. In 2011, after extensive deliberations with telehealth pro-

viders, CMS published much welcomed new regulations in its hospital Conditions of Participation standards to address credentialing and privileging to include proxy arrangements so as to further facilitate the delivery of telemedicine services across the nation.[14] Despite this progress, there remain delays in the credentialing and privileging processes, and confusion amongst practitioners and hospitals regarding roles and responsibilities to include the requisite sharing of quality data.

4. Licensure

State medical licensure is a slow, costly and cumbersome process for providers who wish to offer services through telemedicine to patients physically located in other states. The process of securing multiple licenses is time consuming at its best, with requirements for extensive primary source verification, an application and fee for licensure in the states in which the provider might wish to evaluate and treat patients. So as to ensure the ability of the Boards to respond to complaints and enforce actions against providers, in response to requests for licensure portability, in April, 2014, the Federation of State Medical Boards (FSMB) developed an expedited licensure process. As compared to true licensure portability, as has been applied in the Nurse Compacts and as proposed in legislative proposals, this new process still risks being time consuming and costly to providers. Nonetheless, the FSMB expedited licensure proposal is an improvement over current licensure policy.

5. Stark and Anti-kickback laws

Providers and healthcare systems must be aware of the implications of the Stark and Anti-kickback laws when considering models for acquisition of telehealth equipment and technology. As reported on the CMS website, "the Anti-Kickback Statute (42 U.S.C. Section 1320a–7b(b) makes it a criminal offense to knowingly and willfully offer, pay, solicit, or receive any remuneration to induce or reward referrals of items or services reimbursable by a Federal health care program.[15] Where remuneration is paid, received, offered, or solicited purposefully to induce or reward referrals of items or services payable by a Federal health care program, the Anti-Kickback Statute is violated.

The Physician Self-Referral Law (Stark Law) (42 U.S.C. Section 1395nn) prohibits a physician from making a referral for certain designated health services to an entity in which the physician (or an immediate member of his or her family) has an ownership/investment interest or with which he or she has a compensation arrangement, unless an exception applies."

Both these statutes must be considered as important risks for telemedicine providers or entities who "purchase, lease, order, or arrange for or recommend the purchasing, leasing, or ordering of any good, facility, service, or item for which payment may be made in whole or in part under a federal health care program......Health

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[14] http://www.ofr.gov/OFRUpload/OFRData/2011-10875_PI.pdf.
[15] https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/Fraud__and__Abuse.pdf

care providers must take utmost precaution and care in developing processes and procedures to implement telemedicine programs to avoid liability under the Stark and Anti-Kickback statutes.".[16]

6. Broadband availability:

The Rural Healthcare Program of the Federal Communications Commission's Universal Service Fund was established following the passage of the Telecommunications Act of 1996. This program has been extraordinarily useful in expanding broadband services for eligible entities located in rural areas by providing discounts for ongoing connectivity that compare to those rates available to urban providers. Unfortunately as compared to the e-Rate, High Cost, and Low Income programs, the Rural Healthcare Programs have not fully met their Commission defined funding cap because of onerous, complex application processes, and statutory exclusions to eligibility that do not always align with health disparities. In the Telecommunications Program, as an example, for profit hospitals, initially considered ineligible entities, may receive funding support for connectivity to the Emergency Department but other connections within that hospital are not eligible, even if that hospital is the sole provider in a rural county.[17]

Other ineligible entities include emergency medical services providers and skilled nursing facilities. For-profit clinics and solo practices are not eligible for support. Good faith efforts by the FCC to expand within their statutory authority, has led to somewhat broader use of the Telecommunications Program. The FCC Pilot Program and the Health Care Connect Fund, allows, through consortia, collaborations that may include urban providers. Chapter 10, *Healthcare,* of the National Broadband Plan, outlined important steps to integrate broadband communications services into sustainable models of healthcare delivery.[18]

Despite significant outreach efforts, through 2012, utilization of the fund still remains less than 30% of the funding cap established by the Commission after passage of the Telecommunications Act of 1996. Total funding commitments reported on the Rural Healthcare website through June 2012 were $114,123,355 of which $47,723,468.67 were allocated to providers in Alaska.[19]

The cumbersome and time consuming application process and confusing regulations surrounding the rural healthcare programs remain a disincentive for participation by individual providers and small practices even if they otherwise meet the eligibility requirements set forth in the Act.

7. Patient Privacy and Disclosure

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[16] Ali, S. http://ctel.org/wp-content/uploads/2011/12/CTeL-The-Practice-of-Telemedicine-The-Impact-of-Stark-and-Anti-Kickback.pdf

[17] *FCC Report and Order, Order on Reconsideration and further Notice of Proposed Rule Making,* Federal Register: January 22, 2004 Volume 69, Number 14

[18] Thomes, Cynthia, "The National Broadband Plan: Connecting America. Administered by the Federal Communications Commission, 445 12th Street SW, Washington, DC 20554. Retrieved October 15, 2010, from http://www.broadband.gov." (2011): 435–436.

[19] http://www.usac.org/rhc/tools/news/default.aspx?pgm=telecom

Providers must ensure that any telemedicine collaboration conform fully to the regulations of the Health Insurance Portability and Accountability Act (HIPAA). As with in-person healthcare, providers have a duty to maintain confidentiality and security of patient data. Where a technical staff is included in the healthcare team at both originating and distant sites, and with the additional components of technologies and communications service providers, it is imperative that providers pay special attention and adhere to both the privacy and security elements of the HIPAA regulations. The HIPAA Omnibus Rule requires that providers and their healthcare associates have in place a Business Associate Agreement (BAA) when interactions include protected health information. Business associates include entities that create, receive, maintain, or transmit protected health information to perform certain functions on behalf of a covered entity. They also include subcontractors of the business associate delegated a function, activity, or service in a capacity other than as a member of the business associate's workforce. HIPAA also requires the covered entity be able to conduct audit trails to ascertain the presence of breaches which is not readily available with certain video based applications. As an example, in 2011, Skype issued the following statement:

"Skype is not a business associate subject to HIPAA, nor have we entered into any contractual arrangements with covered entities to create HIPAA-compliant privacy and security obligations. Instead, Skype is merely a conduit for transporting information, much like the electronic equivalent of the US Postal Service or a private courier. Skype does not use or access the protected health information (PHI) transmitted using our software. However, Skype has implemented a variety of physical, technical and administrative safeguards (including encryption techniques) aimed at protecting the confidentiality and security of the PHI that may be transmitted using Skype's calling and video calling products."[20]

Many practitioners are unaware of the complex nuances of these regulations as they relate to telemedicine and do not have in place the legal infrastructure to assist them in managing the additional regulations that govern telehealth practice.[21]

8. Informed consent

Informed consent is a requisite element of all healthcare encounters. Telehealth practice adds additional layers of disclosure, to include authentication of the identity and location of the patient and provider, provider credentials, and delivery systems utilized during the encounter. In addition, providers must have in place an emergency plan should the clinical situation warrant a higher level of care, and a plan for care in the event of technology failure and all should be disclosed to the patient as a component of the consent.

The FSMB Model Policy makes the following recommendations regarding Informed Consent.[12]

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[20] Skype Statement: onlinetherapyinstitute.com/2011/03/videoconferencing-secure-encrypted-hipaa-compliant/
[21] http://caltrc.org/wp-content/uploads/2014/01/HIPAA-for-TRCs-2014.pdf
[12] FSMB

"Appropriate informed consent should, as a baseline, include the following terms:

• Identification of the patient, the physician and the physician's credentials;

• Types of transmissions permitted using telemedicine technologies (e.g. prescription refills, appointment scheduling, patient education, etc.);

• The patient agrees that the physician determines whether or not the condition being diagnosed and/or treated is appropriate for a telemedicine encounter;

• Details on security measures taken with the use of telemedicine technologies, such as encrypting data, password protected screen savers and data files, or utilizing other reliable authentication techniques, as well as potential risks to privacy notwithstanding such measures;

• Hold harmless clause for information lost due to technical failures; and

• Requirement for express patient consent to forward patient-identifiable information to a third party."

9. Standards and Practice Guidelines:

The American Telemedicine Association and its >2500 member supported Special Interest Groups, Committees and Discussion groups have developed standards to address technical applications, and clinical practice guidelines, many of which have been endorsed by specialty societies.[22]

These standards and practice guidelines extend beyond the practice guidelines that currently exist for traditional healthcare. The development of standards and guidelines, addressing both interoperability (such as HL 7, DICOM, or H.320, 323, 324, compression standards for videoconferencing) and specialty specific applications (such as teleophthalmology or telepathology), will increase functionality related to and acceptance of advanced technologies applied to healthcare. The Special Interest Groups of the American Telemedicine Association have worked collaboratively with the clinical specialty societies to develop practice guidelines in telehealth that conform to accepted standards of care. These guidelines are developed after careful review of the evidence, and in consultation with the specialty societies. Examples include teleophthalmology, teledermatology, telemental health, tele-ICU, home telehealth, telerehabilitation, and telepathology. Practice guidelines and standards guide providers and payers in models of best practice, informed by the evidence.

10. Provider education, technical support and training

Training programs in telehealth are important additional elements of health professional education and include the appropriate

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[22] Krupinski, Elizabeth A., and Jordana Bernard. "Standards and Guidelines in Telemedicine and Telehealth." In *Healthcare,* vol. 2, no. 1, pp. 74–93. Multidisciplinary Digital Publishing Institute, 2014.

use of telehealth technologies, board regulations, relevant stand-
ards and guidelines, interprofessional models of practice enhanced
by telehealth, and specific training to operate and troubleshoot
videoteleconferencing equipment, devices and patient monitoring
tools. The American Telemedicine Association offers certification
for certain for-credit programs, and others have developed hybrid
on-line and hands on training. With HRSA funding, and in partner-
ship with the Virginia Health Workforce Development Authority
we have trained 300 health professionals across the disciplines to
become certified telehealth presenters, and/or coordinators to keep
pace with the demand for such trainees. Telehealth should be in-
corporated into every medical and nursing school curriculum, with
subsequent experiences during graduate medical education so as to
prepare our physicians and nurses on the appropriate use of tele-
health in everyday practice.

11. The evidence:

In 2013, the American Telemedicine Association reported "Over
40 years of research has yielded a wealth of data about the cost ef-
fectiveness and efficacy of many telemedicine applications."[23]

More than 20,000 citations in the peer reviewed literature ad-
dress outcomes across the specialties, including pediatric cardi-
ology, high risk pregnancies, congestive health failure, asthma,
chronic obstructive pulmonary disease, cancer, telepathology, tele-
radiology, diabetes care, dermatology and wound care, to name just
a few. The overwhelming evidence is that telemedicine and remote
patient monitoring compares favorably with in person care, and in
many cases, is associated with better outcomes.

a. Home telehealth

Home telehealth is defined as the use of synchronous or asyn-
chronous telecommunications technologies by a home care pro-
vider to link patients to out-of-home sources of medical care,
education, or other services. These services may incorporate
interactive home telehealth technologies using POTS (plain old
telephone service) or broadband telecommunications tech-
nologies. Home telehealth programs generally include moni-
toring devices such as pulse oximetry, blood pressure, EKG,
blood sugar, weight, temperature, and passive monitoring of
motion. It has been reported by the Food and Drug Adminis-
tration, which regulates medical devices, that home care sys-
tems represent the fastest growing segment of the medical de-
vice industry.

Home telehealth can be utilized by traditional home health agen-
cies, for the delivery of hospice care, or for case management by
providers, clinics or hospitals to facilitate chronic disease manage-
ment for patients. Home telehealth programs reduce readmission
rates, visits to the emergency room, physician visits, and impart
significant cost savings. The federal government supports major

[23] http://www.americantelemed.org/docs/default-source/policy/examples-of-research-outcomes---
telemedicine's-impact-on-healthcare-cost-and-quality.pdf

initiatives for aging in place such as PACE, but does not cover the technologies that will keep people healthy, and independent in their own homes.

The Veteran's Administration has published data to demonstrate that the VA Care Coordination and Home Telehealth program reduces hospital admissions by 19% and hospital days by 25% for patients with chronic disease.[24]

Integration of home telehealth into rural models of healthcare is a particularly efficient cost-effective choice when one considers the distances traveled by home health staff in rural areas. Factoring in the time spent traveling to the home, significant cost savings accrues with the use of these technologies. Dimmock et al report the cost savings associated with the supplementation of regular in home visits by home telehealth visits at approximately $50/visit.[25]

A recent analysis of the evidence for telemedicine interventions to include remote patient monitoring has identified significant cost-savings and improved outcomes when applied to the management of chronic illness.[26] These findings are consistent with our earlier referenced UVA Center for Telehealth experience.

12. Acceptance of advanced technologies

Patient acceptance of and satisfaction with the use of telehealth technologies for consultation and ongoing acute and chronic care has been remarkably positive, attributable in part to the obvious benefit of timely access to locally unavailable specialty healthcare that spares patients the burden and expense of travel to remote tertiary and quarternary healthcare facilities. Indeed, we have collected data in many of our programs that demonstrates the telehealth "no-show" rate is considerably lower than the in-person clinic "no shoe rate.[6]

Provider acceptance of advanced technologies and telehealth tools has been equally gratifying for patient consultation, patient education, distance learning opportunities, and for collaborations in remote patient monitoring.

Conclusion:

Telehealth is an essential tool to address the significant challenges of access to high quality care for both acute and chronic disease management, to mitigate workforce shortages, improve population health and lower cost of care. There are many opportunities for small practices to integrate telehealth models into every-day practice. However, even for large healthcare systems, managing and navigating the complex legal and regulatory environment which impacts the practice of healthcare using telehealth tools can

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[24] Darkins, Adam, Patricia Ryan, Rita Kobb, Linda Foster, Ellen Edmonson, Bonnie Wakefield, and Anne E. Lancaster. "Care coordination/home telehealth: the systematic implementation of health informatics, home telehealth, and disease management to support the care of veteran patients with chronic conditions." *Telemedicine and e-Health* 14, no. 10 (2008): 1118–1126.
[25] Dimmock, S et al, A case study of benefits and potential savings in rural home telemedicine, Home Healthcare Nurse, 2000: 18 (2) 124–135.
[26] Bashshur, Rashid L., et al. "The Empirical Foundations of Telemedicine Interventions for Chronic Disease Management." *Telemedicine and e-Health* (2014).
[6] Veith, Sharon T et al

be challenging. For small group practices and solo practitioners, telehealth holds great promise, but the administration and regulatory challenges can be overwhelming. Thus it is imperative that we create and promulgate policies that foster certainty, transparency, high quality, secure and sustainable solutions that empower patients, providers and payers to adopt 21st Century models of care.

Appendix A

CTeL

ROBERT J WATERS

Medicare Reimbursement for Telehealth Services through The Centers for Medicare & Medicaid Services

Calendar Years 2001-2013

	Medicare Telehealth Services			
	Distant Site		Originating Site	
Year	Allowed Services	Allowed Charges	Allowed Services	Allowed Charges
2001	1,494	$ 55,422	294	$ 5,880
2002	5,285	$ 185,086	1,596	$ 31,836
2003	6,776	$ 404,764	4,389	$ 90,186
2004	11,266	$ 765,179	7,841	$ 161,880
2005	15,970	$ 1,176,329	10,972	$ 227,349
2006	25,461	$ 2,124,881	15,908	$ 333,138
2007	25,395	$ 1,991,753	14,336	$ 310,296
2008	23,144	$ 1,613,408	9,247	$ 208,964
2009	37,503	$ 2,797,893	17,100	$ 393,291
2010	46,655	$ 3,397,285	23,660	$ 550,171
2011	82,701	$ 5,938,090	32,450	$ 761,230
2012	106,023	$ 7,467,157	38,540	$ 903,233
2013	136,429	$ 10,689,862	46,147	$ 1,112,446

Please note that the "allowed charges" represent the amount paid by both Medicare and the beneficiary (including beneficiary deductible and co-insurance).

Here are some additional things to consider when looking at the numbers above:

- This data only reflects services paid under the Medicare Telehealth benefit, which only includes services otherwise furnished in-person and would not include professional interpretations of diagnostic tests, for example, that are not subject to Medicare telehealth rules. These services are often referred to as "Telehealth," but are not included in this data.

- The distant site bills for the specific service furnished by reporting the same CPT or HCPCS code(s) reported when the service is furnished in-person. The originating site, by statute, can only bill for the originating site facility fee, which is a national flat fee that is updated annually. The originating site will report only one originating site facility fee, per encounter, even if the distant site practitioner furnishes more than one reportable telehealth service during the same encounter.

- The data relies on the distant site practitioner correctly applying the telehealth modifiers to claims.

Information Provided by CMS—April, 2014

Telemedicine and Small Physician Practices

Testimony presented before the House Committee on Small Business,

Subcommittee on Health and Technology

July 31, 2014

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Thank you Chairman Collins, Ranking Member Hahn, and members of the Subcommittee. I am honored to have been invited to testify before you today on this important policy topic. My name is Megan McHugh, and I am a research assistant professor at Northwestern University, Feinberg School of Medicine. My research and teaching focus on federal health policy and the impact of policy changes on health care cost, quality, and access. The opinions that I will share today are my own, and not the University's.

My testimony is organized around three points:

1. By adopting telemedicine services, small physician practices may be better prepared to participate and succeed in new payment and delivery models, such as bundled payment.

2. Reimbursement and state licensing policies serve as barriers to the adoption of telemedicine by small practices.

3. Any policy that expands the use of telemedicine should be carefully monitored. While there is promising evidence about the value of telemedicine, the evidence is not conclusive (or easily accessible to physicians in small practices).

Telemedicine and New Payment and Delivery Models

There is widespread agreement that the traditional fee-for-service system, which pays providers for each visit, procedure, or test, is an obstacle to achieving the triple aim of better health care, better health, and lower cost.[1],[2] Researchers, health care advisory groups, and policy makers have called for public and private payers to move away from the fee-for-service system toward reimbursement models that reward providers for the quality of care delivered, cost consciousness, and patient satisfaction.[3-5] As a result of these calls, the way in which physicians and hospitals are paid is beginning to change. For example, the Centers for Medicare and Medicaid Innovation (CMMI), created under the Affordable Care Act, launched a bundled payment initiative in which providers receive a fixed, negotiated fee covering a set of treatment services for an episode of care (e.g., hip replacement, stroke). Providers are also required to report quality data. The single, set payment per episode encourages providers to manage costs and integrate care, and the reporting requirements promote accountability for care quality.[6] Similarly, the CMMI is supporting new models at the state level. The State of Oregon received a grant to reorganize its delivery system into coordinated care organizations (CCOs). CCOs are networks of different types of providers that have agreed to work together to manage the care of Medicaid enrollees financed by a single per-patient budget.

Telemedicine has an important place in these value-based purchasing models. Reimbursement is not contingent upon in-person services; instead, providers have the flexibility and the financial incentive to care for patients using the best means possible at the lowest cost. Several studies have shown that telemedicine costs less than in-person visits, and may reduce utilization of high-cost services. One study found that the availability of telemedicine videoconferencing after hours in nursing homes reduced hospital readmissions and led to approximately $150,000 in Medicare sav-

ings per nursing home each year.[7] Additionally, a primary care electronic consultation system that allowed iterative communication between a referring physician and specialist resulted in 20% fewer specialty referrals.[8]

Given the momentum towards value-based purchasing, small physician practices and hospitals would be well-served by exploring whether and how telemedicine could be used to support high-quality care at a reduced cost.

Challenges to the Adoption of Telemedicine by Small Practices

While there are several barriers to the adoption of telemedicine by small physician practices, the two that are arguably the most important and policy relevant are reimbursement and licensing.

Reimbursement

Medicare generally limits payment for telemedicine services to interactive audio and video telecommunications with real-time conversations where the originating sites are located in a rural area.[9] As a result, telemedicine accounts for a very small portion of Medicare services. Only 369 providers had 10 or more Medicare telehealth consultations in 2009, and in 2011, Medicare payments for telemedicine totaled over $6 million.[10],[11] Medicare's rather cautious policies related to reimbursement for telemedicine are magnified because private insurers often look to the Medicare program when crafting their own reimbursement policies.

However, through the rulemaking process, the Centers for Medicare and Medicaid Services (CMS) has been gradually expanding reimbursement for telemedicine. For example, CMS changed to geographic criteria for originating sites for calendar year 2014. Previously, payment for telemedicine services was limited to rural areas that were not located in a metropolitan statistical area (MSA). This year, payment for telemedicine services is also available in rural census tracts within MSAs, which will expand reimbursable telemedicine services to nearly 1 million rural Medicare beneficiaries. CMS also added coverage for complex chronic care services for patients with multiple chronic conditions, as well as transitional care management. Earlier this month, CMS proposed to add annual wellness visits, psychoanalysis, psychotherapy, and prolonged evaluation and management services to the list of covered services.

Although research on the impact of telemedicine on cost, quality, and access is promising, the evidence is not conclusive. As a result, I believe the gradual expansion of telemedicine coverage under Medicare is a sensible course of action, and one that will produce a slow but steady increase in the number of small practices that effectively and efficiently use telemedicine.

Licensing

While state borders may be irrelevant to the delivery of quality care via telemedicine, they do present an important legal barrier.

In most instances, physicians are limited to practicing in states where they are licensed. Telemedicine practice is regulated at the state level by state medical boards, which are given authority by state legislatures. Some state medical boards require telemedicine providers practicing across state lines to have a valid state license in the state where the patient is located.[12] Those who support requirements for physicians to be licensed in the same state as their patients, including the American Medical Association, argue that easing state licensure could compromise patient safety. For example, state regulators may have no power to conduct an investigation of an out-of-state provider if a patient is harmed. Obtaining an additional state license to practice telemedicine typically costs between $200 and $600 per state, and the administrative and time burdens are substantial. These burdens may be greater for small practices, which are less likely to have support staff who can help navigate this process.

My personal opinion is that the current medical licensure system is inadequate to address the growing practice of telemedicine. There are several alternative models that could be considered, though each presents challenges. For example, federal licensure and regulation would inevitably raise federalism concerns as professional licensure has historically been a state power. Another option is an interstate agreement that would grant privileges in all participating states, provided that the physician has a valid license in at least one of the participating states. However, when this approach was attempted by the nursing profession, only half the states adopted the interstate agreement.[13]

Notably, decisions by state medical boards may come under greater scrutiny with the Supreme Court scheduled to hear oral arguments in the case of *North Carolina State Board of Dental Examiners v. FTC*. The board, overseeing the practice of dentistry, sent cease-and-desist letters to unlicensed practitioners who removed stains from teeth. The Federal Trade Commission accused the board of illegally excluding non-dentists from the teeth-whitening market. While this conflict involves a dental board, the outcome could have repercussions for how states regulate medical practice. The court will consider whether a regulatory board whose members have a financial interest in the industry it is charged with regulating can define practice to reduce competition.

Evidence on the Impact of Telemedicine

The academic literature on the impact of telemedicine is voluminous and still growing. Overall, the evidence suggests that telemedicine can improve access to care and the value of care. Here are just two examples:

  • The Veterans Health Administration has a national home telehealth monitoring program that provides routine care, care management, and case management services to veterans with chronic illness through remote monitoring. Patient satisfaction levels are high (greater than 85 percent), the program facilitated independent living, and it reduced hospital days by 40 percent.[14,15]

- Using store-and-forward teledermatology (where a referring physician uploads a patient history and images of a skin lesion to a secure site for a consulting dermatologist to review), dermatologists at Kaiser Permanente in San Diego were able to handle 50 percent more cases compared to face-to-face visits.[15] Other research has shown that teledermatology consults are just as accurate as in-person consults. Store-and-forward teledermatology consults reduce in-person clinic appointments by 25 percent, and real-time teledermatology consults reduce clinic appointments by 50 percent. Satisfaction among patients, referring clinicians, and dermatologists is high.[16]

However, evidence of the impact of telemedicine is not entirely consistent. For example, one study found that physicians were more likely to prescribe antibiotics when the visits occurred via telemedicine, suggesting that telemedicine may result in a more conservative care plan, which could have unintended consequences, such as antibiotic resistance.[17] A randomized controlled trial found that telemonitoring for frail older adults did not reduce hospitalizations or emergency department visits, and was associated with greater mortality.[18] In a recent compilation of systematic reviews on telemedicine, twenty reviews concluded that telemedicine was effective, 19 were less confident about the effectiveness of telemedicine but noted its potential, and 22 concluded that its effectiveness was limited or inconsistent.[19]

Clearly, there is a need for continued research in this area. Additionally, there are two other issues concerning research that should be addressed. First, many studies of the effectiveness of telemedicine have been conducted within hospitals or large physician practices affiliated with health systems. As a result, our understanding of the impact of telemedicine among small, independent practices is much more limited. Second, information about the impact of telemedicine is typically published in the academic literature, which is not easily accessible to leaders of small practices. This limits physicians' ability to make informed decisions about whether or not to adopt telemedicine.

Despite the gaps and inconsistencies in the evidence, I believe that telemedicine holds great potential to expand access, improve care, and reduce cost. This past year, my colleagues and I at Northwestern University designed a new model for primary care in partnership with a private foundation. Our model incorporates telemedicine, reflecting our belief that telemedicine can not only improve the value of health care, but also improve patient and provider satisfaction, and potentially make the practice of primary care more attractive to physicians. We are currently developing an implementation plan for the adoption of this primary care model by small physician practices.

Conclusion

In conclusion, telemedicine is an important tool for small practices as payers transition away from the fee-for-service model. State and federal policy makers have the ability to facilitate the adoption of telemedicine through policies related to reimbursement

and licensing, but expansion should be coupled with oversight to monitor impact.

Again, I would like to thank you for allowing me to appear before you today and share my opinions on this topic. I would be happy to take your questions.

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NT🌐A THE RURAL
BROADBAND
ASSOCIATION

Statement by

Maggie Basgall
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Lenora, KS

On behalf of

NTCA–The Rural Broadband Association

Before the

United States House of Representatives
Committee on Small Business
Subcommittee on Healthcare and Technology

Telemedicine: A Prescription for Small Medical Practices?
Washington, DC

July 31, 2014

INTRODUCTION

Good morning, my name is Maggie Basgall and I serve as the Community Development Specialist for Nex-Tech in Lenora, KS. Thank you for inviting me to join the panel this morning—it's an honor to testify on behalf of NTCA—The Rural Broadband Association and its nearly 900 small, rural telecom provider members who deliver high-speed broadband and other advanced telecom services to rural America that form the essential foundation of telemedicine and other innovative applications.

Among its 25,000 plus customers spread across 9,300 square miles of rural northwest Kansas, Nex-Tech serve 11 hospitals, 14 health clinics, and numerous small physician practices. Ten of those hospitals have already adopted telemedicine, and all plan to use it more extensively in the future. Thanks to Nex-Tech's ambitious broadband-capable network deployment efforts through the years, many of these healthcare providers can access up to 100 Mbps broadband. Depending on size, these entities purchase a range of services from 20 Mbps to 100 Mbps—the same speed recommended by the Federal Communications Commission's (FCC) 2010 National Broadband Plan (NBP) for achieving full functionality of real-time diagnostic imaging.[1]

Broadband is proving to be a great equalizer for rural America. This is especially true for health care needs in rural areas, as high-speed broadband helps healthcare providers serve patients more efficiently and effectively. One of Nex-Tech's goals is to provide doctors with the resources to fully realize what broadband capabilities generally and telemedicine more specifically can offer patients, especially through technology that helps overcome the distance between rural health centers and patients.

To be clear upfront, broadband isn't only used and useful for telemedicine. It has become essential to the very provision of healthcare in any form or fashion, as doctors' offices, clinics, and hospitals need broadband to: backup systems at offsite data centers; connect with insurance companies to check eligibility; offer electronic billing; conduct research; and host educational webinars. Further, some hospitals provide IT services to other facilities and thereby reduce hardware and software costs.

But even with these many benefits for the provision of healthcare generally, it is clear that broadband can play a special role in rural areas by enabling greater telemedicine functionality and helping residents overcome the challenges of distance that make so many tasks more expensive and time consuming. Telemedicine means a patient in need of an immediate mental health consultation who lives hours from the nearest facility can have an instant connection to their psychologist through a telemedicine platform at their local hospital. Another patient may need digital x-ray scans sent to a far-away physician who can assess how their fracture is progressing. These are only a few of examples of the telemedicine possibilities that robust broadband enables.

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[1] Federal Communications Commission. National Broadband Plan: Healthcare Broadband in America. 2004. Retrieved from www.broadband.gov

To help promote greater adoption of advanced telemedicine capabilities, Nex-Tech recently assembled a pilot project with the goal of helping a large local hospital offer in-home treatment for patients through telemedicine. We assembled a team of technology and business experts to serve as advisers to our customer, and we offered to cover some technology costs for a couple of years to help get the project off the ground. Unfortunately, we had to suspend the project because, due to lack of health insurance reimbursement for care through in-home telemedicine, our customer couldn't make the service work financially over the long-term. The interest was there from all parties, but reimbursement was essential to make it work financially.

Healthcare professionals generally need three significant barriers removed before they can adopt and implement telemedicine: 1) robust broadband capability, 2) money for hardware and software, and 3) staff who know how to use the technology. Insurance reimbursement may present a major barrier to in-home telemedicine, but availability and adoption of technology present other obstacles, not only in rural Kansas but in rural areas across the US.

While barriers to in-home telemedicine remain, healthcare providers are still able to use numerous other existing and innovative applications that help them provide better care to patients. For example, thanks to robust, wired broadband that enables high-speed Wi-Fi at the rural health clinics in our service territory, soon hospitals will be able to deploy robots that can effectively transport a doctor stationed at a hospital to a far-away rural area. Patients who visit the clinic are able to interact with the doctor through the robot, which is equipped to conduct diagnostic testing. The same Wi-Fi is helpful to doctors who travel to clinics and need to use their mobile devices while on the premises to communicate with other health care professionals.

Currently, licensing of doctors is handled at the state level and, as such, oftentimes providers cannot serve patients across state lines, which greatly limits the use and/or implementation of virtual telemedicine visits. The TELE-MED Act (H.R. 3077), introduced by Representatives Devin Nunes (R-CA) and Frank Pallone (D-NJ), improves seniors' access to care by permitting Medicare providers who are licensed to practice physically in one state, to treat patients electronically across state lines in any U.S. jurisdiction, without having to obtain additional state licensing or authorization. The bill builds upon recent congressional efforts that have expanded virtual care for military personnel and veterans. I applaud the efforts of Representative Nunes and Pallone for their leadership on this matter. Government programs provide some assistance. For example, the American Recovery and Reinvestment Act sought to promote use of electronic health records (EHRs) through Medicare and Medicaid and regional extension centers such as the Kansas Foundation for Medical Care, which provides ongoing technical assistance to practices. The NBP also recognized the potential of telemedicine over four years ago and recommended that the federal government further incentivize and promote widespread adop-

tion.[2] This is accomplished in part through the FCC's Universal Service Fund (USF) and the rural telecom lending and grant portfolio of the USDA's Rural Utilities Service (RUS). However, many rural health centers—especially family practice physicians—still lack the resources to fully use telemedicine capabilities.

USF can help fill telemedicine deployment and adoption gaps through two of its four components. The USF High Cost fund supports the actual rural networks that Nex-Tech and about 1,000 other small, rural telecom providers deploy all over the country. These networks deliver the broadband data and other traffic that make telemedicine possible; all of the efforts we're discussing would not be possible in the absence of those networks that high-cost USF support enables and sustains in the first instance. The USF Rural Health Care (RHC) fund can further help healthcare providers pay for services, thereby stimulating adoption and use. Most hospitals and doctors' offices operate on very tight budgets, such that telemedicine often has to take a back seat to other vital priorities, such as ensuring the facility is staffed with the best available doctors, physician assistants, and nurses. USF can help bridge this financial gap through RHC, which is available to non-profit and public healthcare providers located in an FCC-approved rural location.

Finally, Nex-Tech couldn't have delivered broadband to rural western Kansas without the help of RUS's rural telecom portfolio and the seasoned experts that staff the department. Not only does RUS lend for broadband-capable plant in rural territory, it also offers a telehealth program that helps healthcare providers purchase the hardware necessary to use telemedicine. The critical role that USF and RUS play in telemedicine deployment and adoption are discussed further below.

USDA RURAL UTILITIES SERVICE

RUS Role in Telemedicine and Rural Telecom Deployment

USDA's Rural Utilities Service's Distance Learning & Telemedicine (DLT) Grant Program helps healthcare providers adopt telemedicine through grants for capital assets such as computer hardware and software, audio and video equipment, and other network components. Traditionally, approximately 40% of program funds support telemedicine. Eligible entities include corporations, partnerships, and state or local units of government providing education and medical care via telecommunications. With funds for telemedicine in short supply at so many doctors' offices, clinics and hospitals. DLT has played a key role in establishing hundreds of telemedicine systems in rural areas across the U.S. USDA Community Facilities Loans and Grants are also available to help rural towns construct healthcare facilities and purchase equipment.

RUS also plays a crucial role in rural broadband deployment through its telecom loan portfolio that finances network upgrades and deployments in rural areas. RUS has been lending for broadband-capable plant since the early 1990s. RUS lending and

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[2] *Id.*

Universal Service Fund (USF) support are inextricably linked at 99.2% of RUS Telecommunications Infrastructure borrowers receive High-Cost USF support. The presence of high-cost recovery is crucial to the RUS telecom and broadband loan calculus. RUS programs have helped rural providers deploy modern networks in many rural areas where the market would otherwise not support investment. Reliable access to capital helps rural carriers meet the broadband needs of rural consumers at affordable rates.

Nex-Tech began providing broadband in Western Kansas in 1998 with the help of RUS financing. The company later acquired 10 exchanges from another carrier and then used an RUS loan to build fiber tot he premise (FTTP) on those communities. This type of financing is not readily available from the private sector due to the challenges of operating in rural areas and the long-term payback in doing do, and this RUS financing comes in the form of loans that must be paid back with interest, creating a win/win situation for taxpayers and the rural broadband consumers who need the technology now.

Unfortunately, the success, momentum, and economic deployment achieved from the RUS's telecommunication programs were put at risk as a result of the regulatory uncertainty arising out of USF reforms that are discussed in greater detail below. It will be all the more important to continue providing RUS with the resources it needs to lend to the rural telecom industry as demand for financing will inevitably increase when reforms are improved and regulatory certainty is restored. Once again, telemedicine efforts will be for naught if robust broadband-capable networks aren't there in rural areas to support those efforts or if the broadband services offered on those networks are not affordable and upgraded over time.

THE USF HIGH COST FUND AND RURAL HEALTH CARE PROGRAM

USF Rural Health Care Program

The High Cost and Rural Health Care components of USF have a symbiotic relationship—the High Cost Fund supports the rural networks that carry telehealth and other data all over the world, and the Rural Health Care Fund can help healthcare providers purchase telecom services so they can send and receive data over the network. Both components are essential to telemedicine adoption.

The RHC is available to non-profit and public healthcare providers located in an FCC-approved rural location. Within RHC, the Telecommunications Program provides discounts for telecommunications services and, as of last month, broadband. Funding for broadband is now available through the new Healthcare Connect Fund (HCF). HCF provides a 65 percent discount on eligible expenses related to broadband connectivity to rural health care providers. Finally, the new HCF is also serving participants in what was formerly known as RHC's Pilot Program, which provided funding for construction or implementation of state and regional

broadband networks. Hundreds of health care providers are participating in the program through 50 active projects.

Pilot Program participants include The University of Kansas City for Telemedicine & Telehealth (KUCTT), whose telehealth network has over 100 sites throughout the state—including Nex-Tech customer Hays Medical Center. KUCTT uses the network to conduct clinical consultations and host educational events.

The FCC's High Cost Fund Reforms

As I have noted earlier, telemedicine simply cannot be implemented without an underlying robust, wired broadband network. Though demand for faster broadband is expected to increase dramatically in the near future, RUS received only 29 broadband loan program applications for rural network loans in fiscal years 2011–2013, compared to 130 in the first three full years of the program.[3] Why would an experienced lender such as RUS want for customers when demand for networks is high? Look no further than the state of rural telecom cost recovery mechanisms.

For example, the FCC's 2011 "Quantile Regression Analysis" (or "QRA") model to cap USF support for small carriers created rampant uncertainty in the rural telecom marketplace. In short, the QRA model took data from the investments and operations of hundreds of small carriers in the United States from two years in the past and then, on the basis of over a dozen different variables, ran those costs through a formula that created new caps each year to govern each carrier's USF support. This was an unsustainable approach to universal service that ran directly contrary to the congressional mandate that USF be predictable; the errors in capturing actual costs used and useful in providing universal service also meant the QRA model did not satisfy the congressional mandate that USF be sufficient.

Despite the fact that the FCC ultimately eliminated the troubling QRA caps after a few years, the question of what comes next creates its own lingering regulatory uncertainty. Updates to legacy USF support rules are still very much-needed. For example, in rural areas served by smaller companies such as Nex-Tech, FCC rules still require customers to purchase landline voice service in order for their line to receive USF support. The customer is effectively denied the option of cutting the landline-voice cord and purchasing only broadband. Such outdated rules that undermine consumer freedom and inhibit technological evolution present an obstacle to the technology transition that consumers and industry are making and the FCC is working to expedite and facilitate in other contexts. Universal Service support should not be tied to a limited service, but available instead to advanced networks that provide consumers with access to a variety of essential, high-quality services from which each consumer may choose.

Nearly three years after a "Transformation" order, small, rate-of-return providers still await an updated cost recovery mechanism

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[3] U.S. Government Accountability Office, (2014). *Telecommunications: USDA Should Evaluate the Performance of the Rural Broadband Loan Program.* (GAO Publication No. GAO–14–471). Retrieved from http://www.gao.gov/assets/670/663578.pdf

that will provide sufficient and predictable support for the simple act of responding to consumer demand for better broadband. Meanwhile, the Connect America Fund set up for larger companies in that 2011 order is in year four of development—a good indication that, if this is how long it takes to create and implement such changes, greater emphasis should be placed on creating a similar fund for smaller carriers as soon as possible. The FCC should move forward immediately to adopt and implement a carefully tailored update of USF that will provide sufficient and predictable support for broadband-capable networks in areas served by smaller rural carriers. Over 130 members of Congress—including Chairman Graves and other Small Business Committee leaders—along with dozens of organizations that serve rural America encouraged the FCC to act through a series of letters earlier this year.[4]

The broadband revolution presents major opportunities for small businesses to innovate and grow, but the business (or entrepreneur with an idea) must have broadband access to take full advantage. Markets will ensure many consumers realize the full benefits of innovation at the lowest possible prices, but in rural areas there are often no such markets to speak of. Though small, rural providers have been leaders in broadband investment even under the current statutory and regulatory regime, further law and policy changes will be necessary to ensure high cost rural areas *both* become *and* remain served even as providers also edge broadband out into unserved areas. We cannot hope to realize the full benefits of broadband for the provision of healthcare generally, and telemedicine more specifically in rural areas, if outdated rules deny support for broadband-capable network investments or the threat of adverse changes to these USF rules create uncertainty in making the decisions to undertake such long-term investments. Sufficient and predictable USF support that provides recovery for *both* the initial costs of installing a rural broadband network *and* the ongoing costs of operating and upgrading the network over time must be seen as a prerequisite to any successful efforts in telemedicine.

CONCLUSION

Telemedicine already offers health care providers numerous ways to better serve patients, and many more exciting innovations are on the horizon. The desire for advanced telemedicine already exists, but now we must supply—and then sustain—the robust broadband capability, funding, and education to spur increased adoption of the services across the country.

Nex-Tech and its counterparts in the rural telecom industry are thrilled to play a key role in this process by delivering the networks that carry the data, and we look forward to greater collaboration with the healthcare industry to work through any barriers to adoption.

Rural America will not realize the promise of telemedicine without a broadband-oriented USF that offers carriers the regulatory

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[4] *See* US House letter led by Representative Gardner and US Senate letter led by Senators Thune and Klobuchar, both sent to FCC Chairman Wheeler on May 6, 2014. *See also* rural organizations letter sent to Chairman Wheeler on March 5, 2014.

certainty needed to make network investments. Support through the USF Rural Health Care Fund and RUS Distance Learning and Telemedicine Grant Program for doctors and nurses who need to purchase hardware, software, and telecom services will continue to be helpful in the advancement of telemedicine. We look forward to working with Congress and the appropriate agencies to ensure these programs work as efficiently and effectively as possible.

Statement of

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On

"Telemedicine: A Prescription for Small Medical Practices?"

Before the
United State House Small Business Committee
Subcommittee on Health and Technology

July 31, 2014

U.S. House Small Business Committee
Subcommittee on Health and Technology
Hearing on
"Telemedicine: A Prescription for Small Medical Practices"
July 31, 2014

Chairman Collins and Ranking Member Hahn, as a fellow of the American Academy of Dermatology Association (Academy), which represents more than 13,000 dermatologists nationwide, and a past president of the Medical Society of Northern Virginia, I commend you for holding a hearing on how new technologies and advances in telemedicine can further efficiency, quality, and access to health care. We applaud you for raising awareness of this care delivery model and look forward to working with you to ensure that our patients can benefit from advances in telemedicine, while also receiving high-quality, timely, cost-efficient care.

I am here today to discuss barriers of implementing telemedicine as a modality of care. Specifically, lack of reimbursement and cumbersome credentialing pose the greatest challenges. Although some reimbursement exists, it is not consistent across payers or across states to allow for proper patient access. To place this issue in context however I would like to first discuss who I am and who I am here on behalf of. The Academy is a leader in supporting the expansion of telemedicine, while ensuring quality of care is delivered. As dermatology is a visual specialty, it lends itself well to telemedicine in various patient scenarios.

Telemedicine is an innovative, rapidly evolving method of care delivery. The Academy supports the appropriate use of telemedicine as a means of improving access to the expertise of Board certified dermatologists to provide high-quality, high-value care. Teledermatology services are valuable means of improving patient care to underserved patients with limited access to speciality care, as a triage tool to determine which cases need to be seen in person most urgently, or as a platform to deliver care to those who are unable to receive the benefits of face-to-face dermatology visits. As the field of telemedicine continues to grow, there is significant potential to improve access to care coordination and communication between other specialities and dermatology.

While teledermatology is a viable option to deliver high-quality care to patients in some circumstances, the Academy supports the preservation of a patient's choice to have access to in-person dermatology services. Teledermatology providers choose between or combine two fundamentally different care delivery platforms (Store-and-Forward vs. Live Interactive), each of which have strengths and weaknesses. Live interactive teledermatology takes advantage of videoconferencing as its core technology. Participants are separated by distance, but interact in real time. Store-and-forward teledermatology refers to a method of providing asynchronous consultations to referring providers or patients. A dermatologic history and a set of images are collected at the point of care and transmitted for review by the dermatologist. In turn, the dermatologist provides a consultative report back to the referring provider or patient at the point of care.

As a provider who runs a small dermatology practice in Northern Virginia, I currently utilize DermUtopia for the provision of telemedicine. This is a HIPAA compliant, mobile phone and web-based application. Through this application, I am able to evaluate and treat both my patients and those who do not have a primary dermatologist. We are also currently in discussions with the safety-net and federally qualified health clinics in the area, and hope to use this store-and-forward application to provide care for their patients in the near future.

Some of these clinics will refer patients that they see through Project Access of Northern Virginia, a program of the Medical Society of Northern Virginia Foundation that provides specialty medical care to low-income, uninsured safety-net patients who reside in Northern Virginia. Additionally, we are aiming to treat Medicaid patients through DermUtopia. However, there have been delays in an ability to solidify funding, despite the fact that Medicaid has approved reimbursement for telehealth services.

I have faced several barriers to most effectively providing care via telemedicine. While I face these barriers as a physician, it is ultimately the patients—often the most economically vulnerable—that are the most directly affected. The largest barrier as noted is reimbursement for telehealth services. Without assured reimbursement, providers and patients are unlikely to utilize telehealth. While Virginia law addresses coverage for telehealth services, this does not guarantee access with all private insurance and many states do not have similar policies. Provider knowledge and use of teledermatology is often limited in these areas. Congress can help set the stage for larger-scale reimbursement by, for example, enabling Medicare to reimburse for telemedicine services.

Appropriate reimbursement for these physician services could be implemented in a variety of contexts. The Academy believes that retaining state-based licensure is the best way to preserve accountability and protect patients. However, we do favor changes, such as the Compact proposed by the Federation of State Medical Boards, which would make it easier for doctors to be licensed in multiple states. Support for studies of existing health systems that could show the impact of teledermatology on access, quality and cost of care in healthcare ecosystems would be beneficial. This would be pivotal in assessing the value of telemedicine and a great step in the goal of removing reimbursement as the biggest hindrance to the proliferation of telemedicine.

The benefits of such reimbursement would be widespread. Teledermatology can save a patient time missed from work, travel time, and, in the correct clinical context, allows for timely diagnosis and treatment when face-to-face care is unavailable or inaccessible. While teledermatology has been traditionally used to increase access in remote or underserved areas, it indeed has great potential for serving a great variety of patients with dermatology care issues. For instance, insured patients in urban areas may face similar access delays or issues as those in geographically remote areas, and therefore benefit from teledermatology.

I have seen first-hand a number of patients that could have had the consultation done virtually and prevented an onerous trip to the office, or to urgent care. For example, included are specific patients who could have a teledermatology consultation and receive treatment at their home or facility. An 89 year old woman who lives alone at home, with no family in the area, and who would need to be brought to the doctor via wheelchair and transport vehicle, may be more easily evaluated via telemedicine. A nursing home patient with dementia, who requires a nursing aid and transportation and coordination costs from the nursing home to evaluate multiple growths, could be evaluated via teledermatology. Finally, a 2 year old with severe eczema and infections who cannot get in to see a dermatologist due to lack of access to a Medicaid dermatologist and inability for parents to transport her during their work hours across the city, two bus rides away, could be evaluated and/or monitored via teledermatology.

Many large health systems, including the Veterans Affairs (VA) and Kaiser Permanente, are reimbursed for their services and use telemedicine with great benefit. These programs help to improve access to dermatologic consultations within their integrated health system and reduce the turnaround time from referral to diagnosis. Additionally, a recent study by researchers at the University of Pennsylvania looked at individuals who were in the hospital who needed a doctor's assessment for a skin problem. All of the participants had an in-person consultation with a doctor, and the researchers also sent photos of their skin conditions to two independent dermatologists remotely. They discovered a 90% agreement for recommendations to be seen in person and a 95% agreement in recommendations for biopsy between the in-person and remote doctors. Finally, emergency setting studies have shown a high patient acceptance rate of teledermatology and that it can provide rapid and accurate diagnostic and treatment advice from a dermatologist. This is especially vital in the cases of commonly misdiagnosed dermatologic conditions.

Overall, telemedicine provides a modality of care which can expand access to medical specialists, such as dermatologists, but barriers to implementation remain. Most notably issues of proper credentialing and reimbursement exist to varying degrees across states. These barriers impact providers but ultimately can hinder patient access to care. I, as well as the Academy, appreciate the subcommittee's continued leadership on this issue, and look forward to working with your office to ensure that patients can benefit from high-quality, timely, cost-efficient care via telemedicine.

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http://archderm.jamanetwork.com/article.aspx?articleid=1829638

[1]http://www.medscape.com/viewarticle/455635

[1]http://ncbi.nlm.nih.gov/pubmed/21995470

[1]http://archderm.jamanetwork.com/article.aspx?articleid=1865056

[1]http://www.nursingcenter.com/Inc/static?pageid=942376

Parkinson's Action Network

Hayley Carpenter
Acting Chief Executive Officer

July 30, 2014

The Honorable Chris Collins
House Committee on Small Business
Subcommittee on Health and Technology
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The Honorable Janice Hahn
House Committee on Small Business
Subcommittee on Health and Technology
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Dear Chairman Collins and Ranking Member Hahn:

The Parkinson's Action Network (PAN) is the unified voice of the Parkinson's community advocating for better treatments and a cure. In partnership with other Parkinson's organizations, including The Michael J. Fox Foundation for Parkinson's Research, the National Parkinson Foundation, the Parkinson Alliance, and the Parkinson's Disease Foundation, the Davis Phinney Foundation, and our powerful grassroots network, PAN educates the public and government leaders on better policies for research and improved quality of life for the 500,000 to 1.5 million Americans living with Parkinson's disease. Thank you for holding the hearing entitled *Telemedicine: A Prescription for Small Medical Practices?* and for the opportunity to provide a statement for the record.

For the Parkinson's community, telemedicine, also referred to as telehealth, has the potential to be a powerfully valuable service in terms of improving quality of life and better management of symptoms by increasing access to specialists. According to a recent study, 42 percent of people with Parkinson's are not seeing a neurologist for their care.[i] Yet, the study also found that seeing a neurologist increases the survival rate for people with Parkinson's by six years and reduces the risk of hip fracture, which leads to expensive hospitalizations. According to the same study, people with Parkinson's who were cared for by a neurologist or movement disorder specialist had the lowest one-year Skilled Nursing Facility placement rates compared to patients cared for by all types of primary care physicians. Another study focused on specialty care for people with Parkinson's found that expert neurologist care not only saves about 4,600 lives, but better access to this care could prevent the deaths of another nearly 7,000 people with Parkinson's disease each year in the U.S. alone.[ii] PAN believes that all people with Parkinson's deserve access to the best care possible, and research has shown that telehealth be used to deliver specialized care to people with Parkinson's who may not otherwise have access.[iii] Studies have also shown that telehealth can reduce hospitalization and keep people living safely and independently for longer, which are major concerns for the Parkinson's community.[iv]

Unfortunately, there are many barriers currently hindering the growth of telehealth. Our statement focuses on three areas: Medicare reimbursement restrictions; state medical licensure; and incentivizing the use of telehealth in clinical trials. We urge Congress to address the major issues of Medicare reimbursement and state medical licensure. If these two hurdles are addressed, we believe telehealth will be able to organically expand to allow all patients to receive the right care when and where they

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need it. In addition, removing these barriers will be beneficial for the overall economy, as it will allow for small provider practices to expand their reach and for small medical device, pharmaceutical, and biotechnology companies to grow and profit. PAN also urges the subcommittee to incentivize small research and pharmaceutical companies to incorporate telehealth into their clinical trials in order to save money and time in order to more quickly deliver new treatments to patients.

Medicare reimbursement
While other federal health systems like the Department of Defense and Department of Veterans Affairs have supported and expanded the use of telehealth, many hurdles still remain within the Medicare system. Congress established very strict rules for Medicare reimbursement for telehealth through the passage of the *Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000*. While provisions have been amended since 2000, many restrictions still remain, including the requirement that a patient be at an originating site for their telehealth medical visit, prohibiting them from being seen by their doctor in their own home. For many people with Parkinson's disease, as well as other movement disorders, traveling outside of the home can prove difficult, if not impossible, without the help of a caregiver. If one of the main goals of telehealth is to expand quality healthcare to those who otherwise would not have access, restricting it to only those who can travel is counterintuitive and damaging to the overall healthcare system.

Access to telehealth is not only restricted to those who can travel to an originating site, the *Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000* also restricts access to telehealth to those located in narrowly defined rural areas, health professional shortage areas, or areas participating in a federal demonstration project – representing less than 20 percent of Americans. Yet, health disparities do not solely exist in rural areas. For example, the state of Delaware, which is not a rural area under the established definition, does not have a single movement disorder specialist in the entire state. PAN believes that everyone should have access to the best care, no matter where they live.

Another barrier to Medicare reimbursement of telehealth is that Medicare only allows for certain providers to utilize telehealth. While Congress provided Medicare the authority to add telehealth providers annually, Medicare has yet to allow physical, occupational, and speech-language therapists to be reimbursed for telehealth services. With no cure for Parkinson's, these therapies are some of the only treatments available to maintain quality of life. Teleheleath has proven effective in delivering therapy services for people with Parkinson's, in particular speech-language therapy.[v] Given the importance of these therapies, and the growing body of evidence on providing these services via telehealth, we believe that Congress should take action to add physical, occupational, and speech-language therapists to the list of providers who can be reimbursed for telehealth services under Medicare. Congress should also study what other practitioners should be added to the list of providers eligible for telehealth reimbursement.

Currently, Medicare does not reimburse for store-and-forward telehealth services outside of Alaska and Hawaii. Store-and-forward telehealth is the acquisition and storing of clinical information that is then forwarded to (or retrieved by) another site for clinical evaluation. There are many examples of how store-and-forward telehealth services can be useful in both providing the right care to patients and reducing costs to the healthcare system. For example, a company called Great Lakes Neurotechnologies in Ohio has developed a device to capture the symptoms of people with Parkinson's in real time. This allows doctors to prescribe more effective treatment regimens for their patients, which could ultimately reduce falls and costly hospitalizations in people with Parkinson's. Unfortunately, because this device stores information and forwards it to a provider, it is not reimbursable through Medicare. While Great Lakes Neurotechnologies could grow and expand by marketing their technology to doctors to better

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patient care for people with Parkinson's, there isn't a market for the use of technology in this way because doctors know they will not be reimbursed. We urge Congress to allow for Medicare coverage of store-and-forward technologies.

To date, over 20 states have taken legislative action to require Medicaid and/or private insurance plans in their state to cover telehealth services. We believe that it is time for Congress to act to remove these significant barriers within the Medicare system and we look forward to working with the subcommittee on this issue.

State medical licensure

The current state medical licensure system, which requires doctors to be licensed in the state where the patient is located, is a significant hurdle to the expansion of telehealth. There are many people with Parkinson's who live in states with no movement disorder specialists; however, movement disorder specialists must go through the burdensome and expensive licensing process if they wish to see a patient across state lines via telehealth.

PAN has endorsed the *TELE-MED Act of 2013* (H.R. 3077), which would remove the licensure barriers within the Medicare program, allowing patients to see their doctors, regardless of location, and calls for the Secretary of Health and Human Services to establish a definition of telemedicine services. We believe this is a good first step, and we urge all members of the subcommittee to support this legislation.

We remain concerned that there will not be meaningful reform of the current system at the state level. State medical boards have a vested interested in maintaining the current system – interests that include licensing fees and control. While the Federation of State Medical Boards has recently drafted an Interstate Licensure Compact, we do not believe that the draft compact goes far enough to fully address artificial barriers preventing patients and providers from having a virtual visit. We encourage the subcommittee to establish a commission of impartial experts to address the issue of medical licensure at the national level.

The use of technology in modern health care means that access is no longer logically defined by where one is located. If the current medical licensure system is not reformed, health care will continue to be fragmented by where patients live and who is able to travel. In order for patients to get the right care when and where they need it, the medical licensing system must be reformed into a system that works for patients, physicians, and regulators, and allows for the natural and safe expansion of telehealth services.

Incentivizing telehealth in clinical trials

Currently, there is no treatment to slow, stop, or cure Parkinson's disease and the current gold-standard drug is over 50 years old. While there are some treatments in the pipeline, the drug development pipeline for neurological drugs is long and expensive, which disincentives companies, especially small businesses, from investing in areas like Parkinson's disease. However, telehealth technologies, such as remote patient monitoring, have been employed in clinical trials with the hopes of increasing participant retention and lowering costs and trial time. While the Food and Drug Administration (FDA) has shown that they are open to these ideas by approving trial designs with extensive use of telemonitoring technologies, we believe the subcommittee should work with the FDA and the National Institutes of Health to incentivize broader use of telehealth in clinical trials.

Conclusion

PAN applauds the efforts of the subcommittee to explore how advances in technology can be harnessed to advance our nation's healthcare system and help more patients, and we appreciate the opportunity to provide input and feedback. We urge the subcommittee to take our policy recommendations under consideration and make meaningful changes to the current hurdles to the expansion of telehealth, including Medicare reimbursement and state medical licensure. We look forward to discussing our recommendations with you further. If you have any questions, please feel free to contact me at hcarpenter@parkinsonsaction.org or 202-638-4101 ext. 104, or Catherine Pugh, PAN government relations manager, at cpugh@parkinsonsaction.org or 202-638-4101 ext. 101.

Sincerely,

Hayley Carpenter
Acting Chief Executive Officer

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